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RENAL FAILURE CASTS *

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During the course of a not yet completed quantitative study of the formed elements of the urine, notes have been kept in regard to the occasional occurrence of a certain type of cast whose most distinctive characteristic is a quite unusual breadth. This feature is illustrated in Figures 1 and 2, in which both these casts and ordinary hyaline casts are shown under the same magnification.

There are three distinct varieties of these broad casts, but they seem to be only different forms of the degeneration of a single type, since every stage of gradation from one variety to the other is often found in the same urine. The first variety, and the one from which the other two apparently develop, is a cellular cast in which even the nuclei of the cells can sometimes be distinguished. These cells are mononuclear, though occasionally two round or oval nuclei are seen in the same cell. They are somewhat larger than polymorphonuclear white blood cells, and no granules have been demonstrated. But much more commonly only rather faint cellular outlines can be traced on the surface of the cast, and at this stage it begins to have a glassy, refractile appearance. As the cell outlines grow still more indistinct and the cast becomes almost homogeneous, the second variety is approached, the broad waxy cast, which in every respect except its breadth is indistinguishable from the ordinary waxy cast. This is the variety that is least frequently seen, however, for most of the broad cellular casts degenerate into the third variety, the broad granular cast, the variety that is nearly always present in the greatest abundance and sometimes is the only form that can be found. These are the casts shown in Figure 2. Under the low power of the microscope they look black, as if they were composed of graphite particles. Under the high power, coarse granules can be seen, which are closely packed toward the center but are sometimes frayed out towards the periphery, making the outline irregular and giving the impression that the cast is in process of disintegration.

The conception that the broad granular and waxy varieties are derivatives of the broad cellular cast, which is suggested by their morphology, is further supported by the fact that in concentrations of methylene blue that leave hyaline casts unaffected, the granular as well as the cellular casts stain deeply, and that a varying amount of the dye is also taken up by the broad waxy cast.

Hyaline casts, and all casts in which the matrix is hyaline, disintegrate in low concentrations of sodium chlorid, but broad casts remain unaltered even in distilled water. For this reason they may be found in dilute urine in which hyaline casts are never seen. Again, in any given concentration of sodium chlorid, hyaline casts remain undissolved only within a relatively narrow range of p_H variation, but broad casts are not appreciably affected even by hundredth normal acid or alkali. Yet they sometimes disappear from urine within a very short time and under the microscope they have been seen to grow more and more faint and indistinct and ultimately to disappear altogether; although, when they have been freed from urine by repeated centrifugalizing from changes of salt solution, they may remain unaltered for weeks.

The reason why these casts have been called renal failure casts will be apparent from a glance at Table 1. This list includes all those patients in whose urine all or very nearly all of the casts were broad. Most of the blood urea concentrations were determined within a few hours, and in all cases within a few days of the time at which the urinary sediment was examined.

In every case in which broad casts composed all or almost all the casts found in the urine, the concentration of urea in the blood was over 100 mg. per hundred cubic centimeters. In every case in which the outcome is known—with the one exception of the instance of mercury nephrosis—the patient died in true uremia. In every case of true uremia this sediment was found, with the exception of patients with pyonephrosis and macroscopic pyuria. The clinical value of a knowledge of this association is obvious. Some of these patients came with superficially trivial complaints, such as headache or nausea, and it was this quite pathognomonic urinary finding that first indicated the real gravity of their condition.

From the data given in Table 1, it might seem that it would be better to call these casts uremic rather than renal failure casts. But when only some of the casts are broad, the degree of renal failure and the general clinical condition did not justify the use of the term uremia. In Table 2, the cases in which only a partial broad cast sediment was found have been tabulated. The total number of casts and the percentages of the various sorts of casts were counted under the conditions and by means of the methods that have been described in a previous paper,[1] but in the table only the percentage of broad casts has been given. The extent of renal failure is measured by the value of the urea ratio,[2] or,

* From the Department of Medicine of Stanford University Medical School.

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1. Addis, Thomas: California State J. Med. **20**: 90-93 (March) 1922.
2. Addis, Thomas: Renal Functioning and Amount of Functioning Tissue, Arch. Int. Med. **30**: 378-385 (Sept.) 1922.

when that determination was not carried out at the time the urinary sediment was examined, a less accurate indication is given by the increase in blood urea concentration.

It will be noted that in all cases in which some of the casts were broad, some evidence of renal failure was obtained. There is no close correlation between the percentage of broad casts and the degree of renal failure,

Fig. 1.—Hyaline and fatty casts of ordinary breadth; × 82.

but no such relationship is to be expected, because the percentage depends on the total number of casts, a quantity that varies more with the nature than with the extent of the renal lesion. In individual cases, however, it has been repeatedly observed that an increase in the percentage of broad casts has been roughly paralleled by a decrease in the value of the urea ratio.

There is, nevertheless, quite definite evidence that the degree of renal failure is not the only factor on which the appearance of broad casts depends. There have been many patients with a renal lesion more extensive than the majority of those listed in Table 2, in whose urine broad casts were never found. Further, in Cases 7, 9 and 17, it will be observed that broad casts were found with blood urea concentrations only slightly over the normal average. In these three patients, there was an acute generalized bacterial infection. In the two instances of glomerular nephritis, the urea ratio measurements before and after the infection showed only a slight decrease in the amount of secreting tissue, and it was only while the toxemia was at its height that broad casts were found. This raises the question as to whether a generalized toxemia may not be the immediate factor that leads to the production of broad casts. It is certainly true that nearly all those patients in whose urine all the casts were broad showed such objective evidences of toxemia as loss of weight and strength, anemia, and gastro-intestinal symptoms of central nervous system origin. My observations, however, have been restricted to patients in whom there was reason to suspect the existence of some form of Bright's disease and no study was made of the urinary sediment in toxemias that were not accompanied by a very definite albuminuria.

It is very evident that there is no relation between the nature of the renal lesion and the occurrence of renal failure casts. They are found in all stages of glomerular nephritis, in several different forms of degeneration, and in renal arteriosclerosis. It will be noted that they may appear in a condition so anatomically diverse

Table 1.—*Patients in Whose Urine All or Nearly All the Casts Were Renal Failure Casts*

No.	Clinical Diagnosis	Blood Urea, Mg. to Each 100 C.c.	Outcome	Postmortem
1	Glomerular nephritis	382	Died	Glomerular nephritis, subacute
2	Renal fibrosis	...	Died	Nephritis, chronic
3	Renal fibrosis	194	Unknown	
4	Glomerular nephritis	359	Died	Glomerular nephritis, subacute
5	Glomerular nephritis	208	Died	Glomerular nephritis, late
6	Renal fibrosis	318	Died	Glomerular nephritis, late
7	Renal fibrosis	138	Died	
8	Renal fibrosis	364	Died	
9	Nephrosis malarial toxemia	422	Died	Tubule degeneration
10	Renal fibrosis	408	Died	
11	Renal fibrosis	186	Died	
12	Renal fibrosis	104	Unknown	
13	Renal fibrosis	342	Died	
14	Renal fibrosis	327	Died	
15	Renal fibrosis	191	Unknown	
16	Renal fibrosis	180	Unknown	
17	Glomerular nephritis	229	Died	
18	Renal fibrosis	130	Died	
19	Renal fibrosis	129	Died	
20	Renal fibrosis	102	Died	
21	Glomerulonephritis	316	Died	Glomerulonephritis, subacute
22	Renal fibrosis	137	Died	
23	Renal fibrosis	132	Died	
24	Glomerular nephritis	129	Died	
25	Renal fibrosis	228	Died	
26	Nephrosis, mercury	226	Recovered	
27	Renal fibrosis	102	Died	
28	Renal fibrosis	249	Unknown	
29	Glomerulonephritis	534	Died	Glomerular nephritis, subacute
30	Renal fibrosis	229	Died	Glomerular nephritis, late
31	Nephrosis, arsphenamin	625	Died	Tubule necrosis
32	Renal fibrosis	186	Died	Glomerulonephritis, subacute, late
33	Renal fibrosis	319	Died	Glomerular nephritis, late
34	Renal fibrosis	171	Unknown	
35	Polycystic kidneys	277	Unknown	
36	Renal fibrosis	223	Unknown	
37	Renal fibrosis	117	Unknown	

Fig. 2.—Renal failure casts; × 82.

from Bright's disease as polycystic kindey. They have even been observed in urine from kidneys in which there was no reason to suspect the existence of any gross structural alteration of any sort. The latter instance is not cited in the tables, because only a very approximate estimate of the percentage of broad casts was obtained. The patient came in suffering from profound shock due to colic from a renal stone. There was anuria. The

blood urea concentration rose to 226 mg. per hundred cubic centimeters before the flow of urine was reestablished. In the small volume of urine that was first voided as he recovered from shock, more than half the casts were broad, and an unusually large proportion were of the waxy variety. Two days later the blood urea concentration had fallen to 88 mg. per hundred cubic centimeters, and no broad casts could be found.

There is evidence that renal failure casts are formed in the collecting tubules and in the ducts of Bellini. The variation in their breadth corresponds to the probable variation in the diameter of the lumen of the collecting tubule system. The breadth of the casts can be easily obtained, but it is difficult to get any exact measure of the diameter of the lumen at different levels of the collecting tubule tree. But these casts have been found within the collecting tubules of patients in whose urine they were present during life, and the broadest are seen in the ducts of Bellini near the apexes of the pyramids. Figure 3 shows these casts in a collecting tubule, of Case 5.

In spite of a wide, though necessarily incomplete and somewhat desultory, search of the clinical literature of the last twenty-five years, I have failed to find any reference to the existence of broad casts. This is a remarkable circumstance, since no one who has looked at the fresh sediment from patients with uremia can have failed to see them. It is an index of the preoccupation of clinical investigators with functional methods to the exclusion of the methods of morphology, and their quite unwarranted faith in the dictum of Schlayer and others to the effect that little or nothing

TABLE 2.—*Patients in Whose Urine Only Some of the Casts Were Renal Failure Casts*

No.	Clinical Diagnosis	Blood Urea, Mg. to Each 100 C.c.	Urea Ratio, per Cent. of Normal	Renal Failure Casts, per Cent. of all Casts
1	Renal fibrosis	55	34	20
2	Renal arteriosclerosis; cardiac decompensation	79	..	8
3	Renal arteriosclerosis; cardiac decompensation	78	24	20
4	Renal arteriosclerosis; cardiac decompensation	73	..	10
5	Nephrosis—pyogenic	112	7	4
6	Renal arteriosclerosis	57	..	10
7	Glomerular nephritis; mastoiditis-panmuuitis	31	..	44
8	Glomerular nephritis	125	..	11
9	Glomerular nephritis; septicemia (?)	45	..	73
10	Glomerular nephritis; lymphosarcoma	...	37	2
11	Glomerular nephritis	51	..	10
12	Renal arteriosclerosis	71	73	20
13	Renal fibrosis	112	..	70
14	Nephrosis, cryptic	106	12	78
15	Renal fibrosis	110	34	27
16	Nephrosis, cryptic	69	25	5
17	Renal arteriosclerosis; septicemia (?)	34	..	14
18	Glomerular nephritis	...	46	4
19	Renal fibrosis	...	22	21
20	Renal fibrosis	...	36	32
21	Nephrosis, mercury	134	..	76
22	Renal fibrosis	...	32	6
23	Renal arteriosclerosis; cardiac decompensation	30	..	35
24	Glomerular nephritis	80	30	47
25	Renal fibrosis	...	37	5
26	Glomerular nephritis; subacute endocarditis	208	..	27

can be learned from the microscopic examination of the urine. All the descriptions of these casts that I have found have dated from the period before the advent of methods of functional diagnosis. In 1868, Wyss [3] noted them in the urine first voided after recovery from the anuria associated with cholera. In 1874, Johnson stated [4] that they are apt to appear in the last stages of "primary granular kidney" when the specific gravity of the urine becomes constantly low. In 1877, Bartels [5] found them in the terminal stage of "chronic parenchymatous nephritis." He gives an excellent account of them and a wood-cut that shows their breadth. In 1881, Dickinson [6] mentioned them as characteristic of the latest stage of "granular kidney." The last is the most

Fig. 3.—Renal failure cast in a duct of Bellini from a kidney section of Case 5; × 82.

recent reference I have found. In 1900, Samuel West published a monograph on granular kidney, in which he dismissed the subject of casts in general with the statement that they are of little significance. During the last quarter of a century, it would seem that his opinion has prevailed.

CONCLUSIONS

1. When all or almost all the casts found in the urinary sediment were very broad, the blood urea concentration was always more than 100 mg. per hundred cubic centimeters. The patients died in true uremia.

2. When only some of the casts were broad, there was always some degree of renal failure. But in certain patients during the height of activity of bacterial infections, a considerable proportion of the casts were broad, although there was no marked impairment of renal function; while in other patients whose general condition was good, none of the casts were broad, although there was a pronounced reduction in the functional capacity of the kidney.

3. The morphology and physical characteristics of broad casts indicate that they are of cellular origin. They are formed in the larger collecting tubules and in the ducts of Bellini. They occur in many diverse forms of renal injury.

3. Wyss: Arch. d. Heilk. 9:232, 1868.

4. Johnson, G.: Lectures on Bright's Disease, New York, G. P. Putnam's Sons, 1874, p. 49.

5. Bartels, C. H. C., in Ziemssen, H. W.: Cyclopædia of the Practice of Medicine, American Ed., New York, William Wood & Co. 15:379, 1877.

6. Dickinson, W. H.: A Treatise on Albuminuria, Ed. 2, New York, William Wood & Co., 1881.

Suggestions Vitiate Conclusions.—It is of essential importance that, in attempting to arrive at conclusions as to the effect of remedies, we remember the possibilities of suggestion and that we avoid making suggestions which may vitiate our conclusions.—Bramwell, Edwin: *Lancet* 1:267 (Feb. 7) 1925.

RIGHT-SIDED CAROTID PULSATIONS IN CASES OF SEVERE HYPERTENSION*

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In studying a large group of women with hypertension, it will be found that a considerable number exhibit striking arterial pulsation phenomena in the right supraclavicular region and in the episternal notch. The first and most common example of cervical arterial pulsation is the systolic thrust of the aorta in the episternal notch. This expansile elevation of the aortic arch may be palpable, with visible pulsation lacking, and often a very definite pulsating mass may be observed pressing the loose areolar tissue of the episternal area upward, simulating somewhat an aneurysmal dilatation. Sometimes this is accompanied by subjective disagreeable sensations.

The second type of arterial pulsation in cases of hypertension is that resulting from elevation of the subclavian artery; this is not so striking as those affecting the aorta or the common carotid. More information may be elicited relative to the subclavian pulsations by palpation than by inspection.

The third type of arterial pulsation in the cervical region in cases of hypertension is that related to buckling or kinking of the common carotid artery. This is a striking phenomenon, and sometimes involves diagnostic difficulties. So far as we know, it has not been directly discussed heretofore.

Fig. 1.—Pulsating mass under the lower portion of right sternomastoid muscle.

REPORT OF CASES

Five cases representing typical examples of angulation of the right carotid artery associated with hypertension are reported.

Case 1.—A woman, aged 52, was admitted to the clinic, Oct. 21, 1924, complaining of substernal pain with radiation to the arm, brought on by meals, dyspnea on moderate exertion, and right subcostal tenderness. Several operations on the pelvis, for mechanical repair, had been performed between the ages of 29 and 32. Hypertension had been discovered six years before; the degree is not known. During the last six years the patient had gained from 50 to 70 pounds (23 to 32 kg.), apparently following the menopause, which occurred at the age of 46.

Physical examination revealed marked obesity, most pronounced over the chest and abdomen. There was no enlargement of the thyroid. The heart was somewhat hypertrophied, but it was rather difficult to determine the exact borders. There were no murmurs. The liver edge was palpable. There was no edema; the peripheral blood vessels were palpable; there was slight sclerosis; a faint capillary pulse in the finger nails was noted, and the systolic blood pressure was 220; the diastolic, 120. Following rest, the blood pressure was reduced to 158 and 100, and 190 and 116. The electrocardiogram revealed inversion of the T wave in Lead I. Studies of renal function revealed normal levels for urea and creatinin in the blood. The phenolsulphonephthalein return was 55 per cent. In the right supraclavicular region there was a pulsating mass, 3 by 4 cm., lying under the lower half and protruding from the outer border of the sternocleidomastoid muscle. On careful palpation, it was apparent that this mass was formed by a marked kinking of the right common carotid artery. The elbow of the kink presented forward. The vessel could be traced up the neck to the angle of the jaw. There was no arterial widening or sacculation. The right subclavian artery was just palpable. The left subclavian was barely felt. The arch of the aorta could be palpated in the episternal notch.

This is an instance of essential hypertension with mild arteriosclerosis, obesity and cardiac hypertrophy with myocardial degeneration. The right common carotid artery was markedly angulated, with pulsation simulating that of aneurysm. There were no subjective symptoms. Lowering the blood pressure produced a marked diminution in the pulsation.

Case 2.—A woman, aged 34, was admitted to the clinic, June 23, 1921. She had been married for twelve years without pregnancy. She had had frequent attacks of tonsillitis until the age of 12, and at the age of 13 had had scarlet fever. Two years before, her blood pressure had been 260 systolic. There were no symptoms referable to the cardiovascular-renal system, except a mild annoyance due to throbbing in the neck. Her blood pressure remained high in spite of careful restriction of diet and frequent catharsis and rest. One month previous to examination, she vomited a pint of dark blood; this was followed by tarry stools.

On the patient's admission to the clinic, the systolic blood pressure was 264; the diastolic, 134. Examination of the fundi revealed marked reduction of the caliber of the arteries, and pigmentary residue in the macular regions, suggesting previous retinitis. The heart was slightly enlarged, with a loud transmitted systolic murmur. The pulmonic second sound was accentuated. There was moderate sclerosis in the peripheral vessels. The thyroid was barely palpable. Roentgen-ray examination of the heart and aorta revealed nothing abnormal, and the electrocardiographic findings were not significant. The skin capillaries were fine, and contracted with rapid flow. The renal function was adequate. There was a marked pulsation in the right supraclavicular region under the lower third of the sternomastoid muscle, apparently originating in the common carotid artery. This vessel was tortuous; angulation projected externally and posteriorly. The aortic arch was palpable in the episternal notch. The right subclavian artery was just palpable.

* From the Division of Medicine, Mayo Clinic and the Mayo Foundation.

Treating the high blood pressure by bleeding, rest, nitrites and dietetic restrictions was not markedly successful, the average level ranging from 200 to 108, and from 236 to 136. The patient wrote three years later that her health was fairly good; she was working moderately. Her systolic blood pressure was less than 200.

This patient presented an example of severe hypertension with moderate arteriosclerosis, and chronic mitral endocarditis with cardiac hypertrophy. The right common carotid artery was buckled at its lower third, producing a marked localized pulsation, suggesting an aneurysmal lesion. This condition was noticeable to the patient, and still persists.

Fig. 2.—Kinking of the right common carotid artery just above the point of origin, causing a marked episternal pulsation.

CASE 3.—A woman, aged 38, was admitted to the clinic in July, 1924. She had had typhoid fever at 21, influenza at 35, and albuminuria during her first and third pregnancies. The present trouble developed during her third pregnancy, at which time she had had occipital headaches, dizziness, nausea and vomiting, albuminuria, moderate generalized edema, and a systolic blood pressure of 280. Labor had been uneventful. One year before admission, she commenced to have severe headaches, dizziness, nausea and vomiting, with a sensation of numbness and tingling passing over the entire body, and temporary paralysis of the tongue. This was followed by loss of sensation of heat and cold in the left foot.

The systolic blood pressure was 186, and the diastolic, 130. The right pupil was larger than the left, with normal reactions to light and in accommodation. There were thickening and slight tortuosity of the radial vessels. The heart measured 12 cm. to the left, with a short systolic murmur not transmitted. The neurologists diagnosed hemorrhage into the pons, and pachymeningitis hemorrhagica. The fundi showed signs of mild hypertension in the retinal vessels. The blood pressure did not change with rest. The nitrite response was quite satisfactory; the blood pressure decreased to 145 systolic and 80 diastolic. The response to phenobarbital and warm baths was negligible. There was a marked aortic pulsation in the episternal notch. Under the lower third of the right sternomastoid muscle was a well defined pulsation and angulation of the common carotid artery. The elbow of the vessel moved laterally with each systole (Fig. 1).

This patient had essential hypertension with arteriosclerosis, and a residual lesion of a previous cerebral hemorrhage. There was cardiac hypertrophy with myocardial degeneration. The right common carotid artery was tortuous, and buckling and angulation produced a well defined localized pulsation under the lower half of the sternomastoid muscle. The pulsation diminished under the reduction regimen. There were no subjective symptoms.

CASE 4.—A woman, aged 51, was admitted to the clinic, Oct. 29, 1924. Her father had died at the age of 63 from apoplexy. Her mother died from heart disease at 76, and one brother had died of heart disease at 51. The patient had had smallpox at 15, several attacks of tonsillitis, and influenza in 1922. She had never been pregnant. Hypertension was discovered in 1914, during an examination for life insurance. Five years before examination, she had had an attack of upper right abdominal pain with radiation to the shoulder, followed by jaundice, and gallstones were diagnosed. Since then, several attacks of a similar nature had followed, associated with gastric symptoms and jaundice.

The patient was well nourished. She had dental and tonsillar sepsis. The left border of the heart measured 11 cm., with a faint systolic mitral murmur, not well transmitted. The sounds were of good quality. The liver edge was palpable and tender. There was slight edema in both legs. The systolic blood pressure was 200, and the diastolic, 118. After three days of rest, this was reduced to 178 and 98. The electrocardiogram did not reveal significant changes. Tests of hepatic function with phenoltetrachlorphthalein showed dye retention 1, and the serum bilirubin was 2.7 mg. There were no demonstrable changes of the retinal vessels, and no impairment of renal function.

The diseased gallbladder was removed; the patient recovered uneventfully.

At the outer margin of the sternal portion of the right sternomastoid muscle, a marked pulsation was visible. On palpation, a tortuous common carotid artery was felt, which was kinked toward the right. A definite systolic murmur was heard over this area in the recumbent position. The carotid pulsation was more marked in the recumbent position. The aortic arch was elevated 1 cm. above the sternum in the episternal notch.

CASE 5.—A woman, aged 64, was admitted to the clinic, Feb. 2, 1925. Her father had died of apoplexy at the age of 77. One year before, sudden paralysis of the right leg had developed; this partially cleared up within three months. She still has trouble in moving this leg freely. For the eighteen months prior to the examination, she had had attacks of dizziness, associated with a sensation of falling, brought on by exertion. Three months before, she had awakened during the night with a sensation of generalized numbness, which disappeared in one hour. Her physician had discovered high blood pressure six months before, and had told her that her condition was serious. For the last

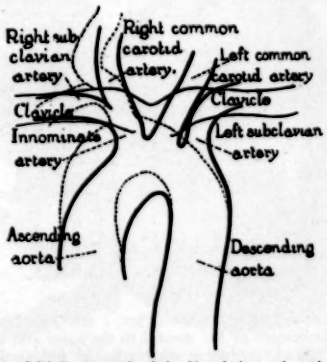

Fig. 3.—Solid line, normal relationship of the aortic arch and its branches; broken line, carotid buckling due to elevation of the arch.

few months the dyspnea had increased, and there was slight swelling in the ankles. There has been a nocturia (three or four times) in the last year.

Examination revealed the systolic blood pressure to be 260, and the diastolic, 140. There was marked retinal arteriosclerosis, a few small hemorrhages and absorbing exudates, and slight edema of the disks. The heart measured 14 cm. to the left. There was a soft, systolic, mitral murmur over the mitral area, and transmitted to the axilla and the base. The peripheral vessels were markedly tortuous and beaded. The phenolsulphonephthalein excretion was 45 per cent. in two hours. The blood chemistry values were normal. In the episternal notch, there was a very marked localized pulsation, measuring 4 by 5 cm., extending to the right and just approximating the inner border of the right sterno-

mastoid muscle. On following the carotid artery up the neck, a small pulsating area was observed below the ramus of the lower jaw, due to a small buckling of the external carotid. The lower segment of the common carotid revealed an acute angulation, making a right angle turn, with the buckling angle presenting forward (Fig. 2). This could be felt quite superficially, and caused the notch pulsation. The arch was barely palpable. The subclavian arteries were not felt.

This patient's hypertension was of a severe malignant type, as revealed by the high diastolic pressure, resistance to treatment, and character of the retinal lesions. There was a residual hemiplegia, cardiac hypertrophy with moderate insufficiency, and a sharp buckling of the common carotid artery just above its origin, producing a marked pulsation in the episternal notch. There were no subjective symptoms associated with this condition.

COMMENT

It is apparent that abnormal pulsation of the right common carotid artery is so common as to be important in the differential diagnosis (Figs. 1 and 2). Because of the proximity of the carotid to the aorta and to the thyroid gland, confusion may arise in distinguishing this benign vascular phenomenon from more important clinical conditions, such as aneurysm and hyperthyroidism. Moderate diffuse throbbing of carotid pulsation has been observed in cases of exophthalmic goiter, aortic insufficiency, polycythemia, effort syndrome, and sometimes in apparently normal persons in the presence of excessive cardiac activity. These types of pulsation are simply expressions of excessive expansion of vessels, and are not comparable to the shifting pulsation movement occurring with carotid angulation in hypertensive states. The mechanism underlying the causation of the latter condition is easily understood on the basis of vascular adjustments related to hypertension. The changes in the carotid arteries resulting from, and related to, hypertensive states are: (1) lengthening of the aorta and carotid; (2) elongation and diffuse mechanical dilatation and elevation of the arch and its tributaries, and (3) readjustments of the carotid artery to the shortened distance from arch to skull.

In Figure 3 is shown diagrammatically the normal relationship of the vascular structures of the upper thorax. The arch, normally, is not palpable in the notch and cannot be felt with the examining finger. Elevation of the arch may be transitory in many instances, depending to a large extent on the cardiac activity and degree of hypertension. Frequently the notch pulsation disappears following treatment of the hypertension. Elevation of the arch is usually apparent by pulsation in the episternal notch, or by finger palpation with the head flexed. The degree of arch elevation and the extent of the vessel excursion can thus be usually established. With elevation of the arch, there is a lifting up of the right subclavian and common carotid arteries. The second and third portions of the right subclavian artery usually lie below the level of the clavicles and are not palpable. The right subclavian artery is elevated earlier and to a greater extent than the left. The left common carotid has its origin directly from the arch and within the thorax. The interpolation of the innominate on the right side brings the origin of the right carotid posterior to the sternoclavicular joint and out of the thorax; thus, the right carotid is shorter than the left. Kinking of the common carotid artery is the mechanical sequence of the arch elevation, although elongation through increased intravascular pressures also contributes to its tortuosity. The extent of angulation depends on the extent of aortic elevation and of carotid elongation. The maximal pulsation is seen and felt at the point of angulation, although inspection of the pulsating area often reveals considerable shifting in the surrounding soft tissues, allowing the pulsation to spread or diffuse at variable distances from the point of buckling. The point of angulation has been determined in a series of subjects (Fig. 4). On the right side of the neck, the kinking underlies the lower third of the sternal portion of the sternomastoid muscle, or just approximates its outer border, with the angle pointing toward and almost reaching its outer margin. Frequently the buckling angle protrudes into the triangular interval dividing the clavicular and sternal portions of the sternomastoid muscle, accentuating the pulsation. On the left side the buckling angle is lower, pointing laterally and downward. The systolic thrust is toward and under the sternal division of the sternomastoid muscle in a downward direction; thus, the pulsation area is largely concealed.

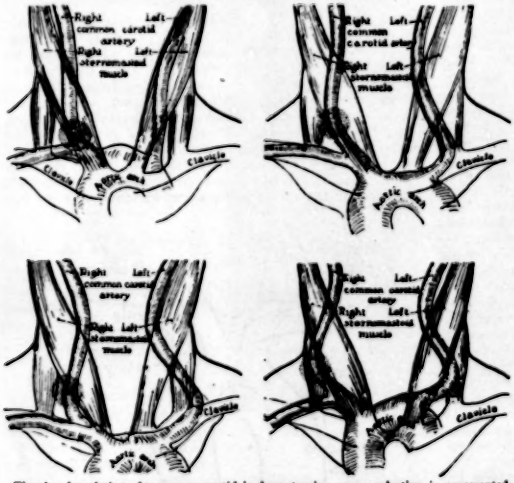

Fig. 4.—Angulation of common carotid in hypertension area; pulsation is represented by shaded circles.

DIAGNOSIS

The diagnosis is made by careful inspection and palpation of the vessels of the neck. The point of maximal pulsation is usually observed and palpated along the outer or inner border of the lower half of the sternal portion of the sternomastoid muscle. The carotid artery can be followed up the neck, and the extent of tortuosity and angulation can be definitely established. In no instance has marked angulation of this vessel existed in the absence of arch elevation. The degree of pulsation may, in certain instances, be modified by change

of position. In Case 4 the pulsation was markedly increased in the recumbent position, although the reverse is frequently the case. Varying the position of the head and relaxing the sternomastoid muscle and the tissues of the neck will usually amplify the carotid pulsation. The roentgenographic examination is important in eliminating aneurysms or intrathoracic lesions, and in determining the elevation and dilatation of the aortic arch, but no information is elicited bearing directly on the carotid arteries. The arch or notch pulsation is confined to the episternal space and contiguous tissue. The origin of the pulsation may be confirmed by direct palpation of the aorta. The subclavian pulsations are usually observed over the outer half of the clavicle, and, when present, this vessel can usually be palpated. Arteriosclerosis, in the absence of hypertension, is not associated with striking pulsatory phenomena. Cervical pulsations in insufficiency of the aortic valve are bilateral and involve all the peripheral vessels. The pulsation is throbbing and expansile, and stands in sharp contrast to the localized pulsation of a buckled carotid (Fig. 5). The difference between venous and arterial pulsation is usually shown by palpation; the latter is easily palpable; the former is not. Venous pulsations are usually oscillatory while the arterial has a well defined thrust. The higher incidence of carotid pulsations in females is striking. We have never observed the striking localized carotid pulsation in males. The inferior development of the muscles of the neck, the softer character of the cervical tissues, and the possible respiratory effects of constriction of the thorax, by the wearing of corsets, may be factors.

Fig. 5.—Throbbing arteries of the neck in a patient with aortic regurgitation. The pulsation is equal in the right and left vessels; the areas of maximal pulsation are represented by shaded circles.

SUMMARY

In women with marked hypertension, a pronounced pulsation is often encountered in the lower right cervical region beneath the sternomastoid muscle. This pulsation is due to kinking or buckling of the right carotid artery, caused by the adjustment of a lengthened carotid artery to the decreased distance from the aorta (which is elevated) to the skull. Because of the protrusions of the angle of the carotid from the margins of the muscles, the soft tissues of the neck participate in the pulsations. The mere knowledge of the existence of such pulsations, and an appreciation of the mechanism whereby it is produced, will facilitate its recognition and diagnosis.

Acute Appendicitis at Boston City Hospital.—A record of the cases of acute appendicitis at the Boston City Hospital from 1895 to 1922 has been compiled by Dr. Daniel Joseph Duggan in the *Boston Medical and Surgical Journal*. There has been a gradual increase in the number of cases of appendicitis from eighty-two in the first year to 913 in the year 1921-1922; and the increase is accounted for by the growth of the community and improved diagnostic methods. There has been also a gradual decrease in the mortality rate for appendicitis at this hospital from a rate of 20.7 per cent. in the year 1895-1896 to 3.1 per cent. for the year, 1921-1922.

TULAREMIA

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Tularemia was discovered by McCoy and Chapin in 1912 as an epidemic in ground squirrels in Tulare County, California. Although this infection has prevailed in these squirrels until the present, no cases in human beings have been reported from California. Later, Wherry and Lamb isolated the germ from rabbits, during an epidemic in Indiana. Not until 1922 was the disease described in man, when Dr. Edward Francis described it and called it "tularemia, a new disease in man." Since that time, there have been reported about 300 cases in Utah, Montana, Wyoming, New Mexico, North Carolina, and Washington, D. C. Six cases in laboratory workers were reported in Washington, D. C., three in Montana and three in the Lister Institute, London. In all three of these laboratories, every worker experimenting with tularemia contracted it. The only cases that I can find reported in the Southeast is one in Charlotte, N. C., reported by Dr. Lucius G. Gage, and one from Mississippi, reported by Dr. E. G. Martin, not proved by the laboratory, but unquestionably tularemia.

Francis has recently found on the Washington market nine rabbits from Virginia, two from Tennesee, seven from Montana, eight from New Mexico and ten from Mississippi infected with *Bacterium tularense*.

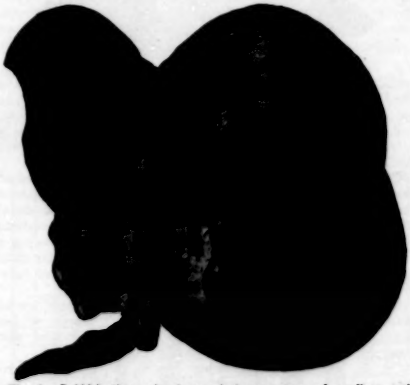

Fig. 1.—Rabbit's liver, showing typical appearance of small necrotic foci of tularemia. (Photograph by Major James F. Coupal, M. C., U. S. Army, by courtesy of Dr. Edward Francis, Surgeon, U. S. P. H. S.)

Francis has shown that the disease is transmitted from rabbit to rabbit, in nature, by the rabbit louse, *Hemodipsus ventricosus*, and the rabbit tick, *Dermacentor andersoni* Stiles, neither of which bites man; and is transmitted from an infected rabbit to man by the blood sucking fly, *Chrysops discalis*, or by handling infected rabbits. The majority of the cases in the West have been from the fly bite, and all the cases reported in the East have been from handling infected rabbits. The only animals found infected in nature are the ground squirrels of California, jack rabbits and cotton tail rabbits.

REPORT OF CASE

History.—Mrs. A. M., a widow, white, aged 73, born in Scotland, now living in Chesterfield County, with a negative past history, not having been sick for twenty years, became ill, Nov. 23, 1924. Next day she had a chill, followed by a rise of temperature of 104 F., with nausea and vomiting. The following morning the temperature was only 100 F., but promptly rose again and continued an irregular course from 99 to 104 F. The height of the temperature bore no relation to the time of day, and was higher on some days than on others, with a pulse ranging from 82 to 108. At first, she complained of pains at the crest of the right ilium; on the fifth day, the abdomen became greatly distended, and the patient was very toxic, (suggesting typhoid), with some pain in the right axilla. December 2, the patient began to pass a quantity of mucus from the bowels, which continued until December 16.

Physical Examination.—The patient weighed about 160 pounds (73 kg.), and was well preserved. A soft systolic murmur was heard at the apex. There was tenderness at the crest of the right ilium. On the fifth day there was some jaundice of the sclera and tenderness of the rignt axillary glands, but no glands were palpable. Fine, crepitant râles could be heard in the base of both lungs. There was tenderness of the gallbladder. The blood count showed: leukocytes, 7,500; polymorphonuclears, 57; small lymphocytes, 36; large lymphocytes, 5; transitionals, 1; eosinophils, 1. The blood culture was negative; the Widal test was negative; no malarial parasites were found; the urinalysis was negative; a culture of B bile showed staphylococcus. December 4, the agglutination test with *Bacterium tularense*, done by the hygienic laboratory, was positive in dilutions of 1:160,

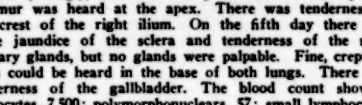

Fig. 2.—Rabbit's spleen, showing characteristic necrotic foci. (Photograph by Major Coupal, M. C., U. S. Army, by courtesy of Dr. Francis, Surgeon, U. S. P. H. S.)

and, December 16, positive in dilutions of 1:2,560. In a personal communication, Dr. Francis stated that this was the highest titer that he had ever tested.

On the fifth day of the disease, the patient complained of pain and soreness in the right, index finger. Examination revealed a dark spot on the palmar aspect of the distal phalanx of the right index finger. A drop of pus was removed, (this pus did not show any organisms), leaving a clean cavity about the size of a black-eye pea, with no signs of inflammation. This immediately made me suspect tularemia.

On being questioned, the patient said that three weeks before the sickness began she had stuck a needle in her finger, which remained sore, and eight days before that time she had dressed a rabbit that a cat had caught.

On the morning of December 2, she was given 5 grains (0.3 gm.) of quinin dihydrochlorid intravenously. This was followed by a sudden drop of temperature, and the patient became very toxic and apathetic. The temperature rose to 104 F. the next afternoon. December 6, quinin sulphate, 5 grains (0.3 gm.) three times a day, was given, after which the temperature promptly came down and never went over 100 F. again. There was a profuse perspiration, which lasted three days.

COMMENT

I do not know whether the quinin was the cause of the sudden drop of temperature both times, or whether it was a coincident, as we know that a large percentage of these patients get well; however, I think it is worth noting, especially in view of the age of the patient, the severity of the symptoms; the high dilutions in which the blood agglutinated *Bacterium tularense;* the fact that the case ran a much shorter febrile course than most cases reported, and the much shorter convalesence.

The most complete report that I have seen is that of Dr. Verbrycke, which is almost identical with mine except the blood picture.

CONCLUSION

Tularemia exists in Virginia in both rabbit and man. In any continuous fever in a patient who has manipulated the internal organs of a rabbit, tularemia should be considered. Quinin is probably of therapeutic value, but should be given with caution intravenously or in excessive doses.

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THE QUESTION OF LEUKOCYTOSIS FOLLOWING TYPHOID PERFORATION OF THE INTESTINES*

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AND
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There is no uniformity in medical literature concerning leukocytosis following typhoid perforation of the intestines. A review of the subject reveals a wide diversity of opinion. Some [1] state that this complication of typhoid fever is followed by an immediate leukocytosis; others [2] report that this phenomenon is usual but not constant, and others [3] that the count may be high, may be unchanged, or may even suddenly fall. Statements also appear [4] that the differential count is the most important diagnostic consideration, while still other writers [5] conclude that changes in the white blood count are totally unreliable in the diagnosis of this condition. In other words, there are at least five distinct teachings concerning this point.

RECORDS FROM BELLEVUE HOSPITAL

Finding these various opinions—with some diametrically opposed statements—we determined to ascertain the leukocytic reactions produced by typhoid peritonitis, as recorded at Bellevue Hospital, on the charts of patients treated for typhoid fever complicated by intestinal perforation. From 1905 to 1924, there were treated 2,215 patients with typhoid fever. Intestinal perforation was diagnosed in seventy-four instances (3.52 per cent.). Operations were performed on sixty-six of these patients, and necropsy records corroborated the diagnosis in three additional cases. Intestinal perforation was established, therefore, in 3.11 per cent. of the series. This percentage corresponds with that given from other sources. For example, Armstrong,[6] reporting 2,051 cases treated at the Montreal General Hospital from 1897 to 1910, found ninety-three instances of perforation (4.53 per cent.). Manges,[7] in 1905,

* Read before the Harlem Medical Society, Feb. 4, 1925.
* From the Third Surgical Division of Bellevue Hospital (service of Dr. George David Stewart), and the Department of Experimental Surgery, New York University and Bellevue Hospital Medical College.

1. Monographic Medicine, New York, D. Appleton & Co. 2: 239, 1920.
2. Sajous: Cyclopedia of Practical Medicine, Philadelphia, F. A. Davis Company 2: 643, 1917.
3. Osler, William: System of Medicine, New York, D. Appleton & Co., 1912.
4. Harte, R. H.: A Study of Perforation in Typhoid Fever, J. A. M. A. 45: 1315 (Oct. 28) 1905.
5. McRae and Mitchell: Surgical Features of Typhoid Fever, Johns Hopkins M. Rep. 10.
6. Armstrong: Paper read before the Chicago Surgical Society, May, 1902.
7. Manges, Morris: The Diagnosis and Treatment of Typhoid Perforation, J. A. M. A. 44: 1016 (April 1) 1905.

summarizing 1,800 typhoid fever records from Presbyterian Hospital, New York, found intestinal perforation in 3.8 per cent. Patterson,[8] in 1908, reviewing 21,215 cases from various sources, found 671 reported perforations, or 3.16 per cent. Devincenzi,[9] giving a similar international list gathered from the literature to 1919, found 23,113 cases of typhoid fever, with perforation in 3.73 per cent.

In the Bellevue series, the operative recovery was 28.12 per cent. (mortality, 71.88 per cent.). This also agrees with statistics elsewhere. Keen,[10] in 1898, reported eighty-three cases in which operation was performed, with recovery in 19.3 per cent., and a year later added forty-seven cases with recovery in 28 per cent. The general operative mortality in 1903 was 74.03 per cent; in 1908, 74.01; in 1919, 73 per cent.

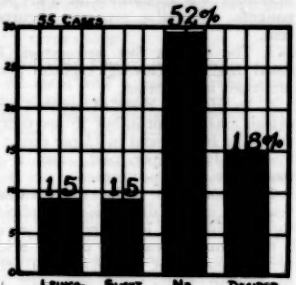

Chart 1.—Reactions in total number of cases.

BEHAVIOR OF THE LEUKOCYTES

An analysis was made of all white blood counts taken during the twenty year period in the sixty-nine cases of proved intestinal perforation. Of these sixty-nine, fourteen are omitted, for the reason that no blood counts were made, or counts were not made both before and after perforation. There were, therefore, fifty-five records with a series of counts, from which it was possible to note the reaction caused by the complication. For purposes of study, these cases were tabulated under four headings: (1) those showing an actual leukocytosis; (2) those showing a slight rise in the count; (3) those showing no appreciable change, and (4) those showing a decided fall. As standards for this classification, leukocytosis was considered to mean a total white cell count of 12,000 or more; a "slight rise," an increase of more than 3,000 cells in the total, or ten cells in the differential counts; "no appreciable change" referred to variations of less degree, while "a definite fall" meant a drop of more than 2,000 cells in the total, or ten cells in the differential count.

Of the tabulated charts and plots that were made, showing graphically these reactions, only two charts are included here. Briefly, the findings in the fifty-five cases were as follows: Eight showed leukocytosis; eight, a slight rise; twenty-nine remained constant, while in ten there was a definite fall. In other words, 52 per cent. remained constant; 15 per cent. showed leukocytosis; 15 per cent. a slight rise, and 18 per cent. a fall in the count, following intestinal perforation (Chart 1).

Data with reference to the week of perforation revealed that when perforation occurred during the first three weeks of the fever, in no instance was leukocytosis observed, and in but two instances was there a slight rise in the count. All patients with a fall in the blood count had perforation during the first three weeks of typhoid fever. (Chart 2.) Data with reference to the differential counts showed that there was no constant reaction in the various types of white blood cells.

8. Patterson, quoted by Manges (Footnote 7).
9. Devincenzi, G. C.: Ann. de la Fac. de Med., Montevideo 4: 214 (April) 1919.
10. Keen: Surgical Complications and Sequels of Typhoid Fever, Philadelphia, 1898, p. 238.

COMMENT

The reactions following perforation were as diversified as the opinions from the literature of the subject. However, our findings lead us to one definite conclusion. This was not that leukocytosis is constant or even usual, after typhoid perforation of the intestines, as is apparent from the fact that only eight cases showed this phenomenon while forty-seven did not. In 85 per cent. there was no leukocytosis, and in 70 per cent. no rise of any degree. In only three instances was the count in excess of 15,000 cells, and these followed perforations in the seventh and ninth weeks of typhoid (recrudescent and convalescent cases). From one patient the blood was taken three hours before death, which involves the question of a "terminal" leukocytosis. Two others had at necropsy a complicating pneumonia. Thus, of the eight cases with leukocytosis, six showed unusual features suggesting other explanations for the high white cell counts. The results lead definitely to the conclusion that leukocytosis is not merely inconstant but unusual after perforation of an ulcer. Furthermore, in reviewing the 2,215 charts, it was found that in cases of typhoid fever without perforation, leukocytosis was, of itself, a very common finding, but occurred with other complications. For example, many counts in excess of 25,000 were encountered with the complications of acute cholecystitis, acute appendicitis, otitis media and pneumonia, while there were still more counts above 15,000 in these conditions, as well as in phlebitis, wound infections and local abscesses. Therefore we were led to conclude further that leukocytosis occurring during the course of typhoid fever points toward other complications rather than perforation of the intestines.

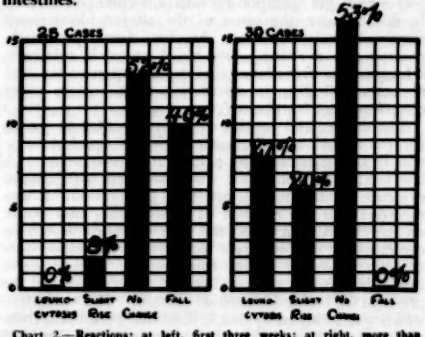

Chart 2.—Reactions: at left, first three weeks; at right, more than three weeks.

The conclusion of this review, likewise, does not correspond with the opinion that the differential blood count is a most important diagnostic consideration at the time of perforation. It was found that a decrease in the number of polymorphonuclear leukocytes with a relative increase in the lymphocytes followed this accident more frequently than the reverse of this reaction, yet the changes were as inconstant and inconclusive as the results with reference to the total white blood counts.

The statement of Osler[9] that the leukocyte count may be increased, unchanged or decreased after perforation is borne out by the findings of this study. In this particular group of fifty-five cases, the percentages were, respectively, 30, 52 and 18. The results also corroborate statements made by McRae,[11] Mitchell,[5] Frank,[12] Courtney[13] and others that the white blood reactions are totally unreliable as a guide to the diagnosis of intestinal perforation in typhoid fever.

The final conclusion demands recognition of the danger as well as the unreliability in utilizing these variable counts for diagnosis. From a surgical standpoint, immediate operation is imperative; for, with typhoid, as with other types of intestinal perforation, there is a direct relation between the time of operation and the resulting mortality. That a rapidly rising white cell count clinches the clinical diagnosis of typhoid perforation, while a failure to rise or a decreased count is to be ignored, we believe a misleading teaching. Any delay after suspected perforation in order to watch the white blood reaction should be condemned. The results do not justify the loss of time. Not only is there nothing definite to be gained by such a series of counts and a serious surgical risk involved in the delay, but, in addition, attempts to correlate these inconstant blood reactions with the clinical picture have repeatedly led to errors in diagnosis, as is illustrated by cases from this series and from literature.

The danger of utilizing a rising white blood count as confirmatory of the diagnosis of perforation is pointed out by McRae and Mitchell,[5] who reported two cases diagnosed as spreading typhoid peritonitis, largely because of a rapidly rising blood count, in both of which a normal peritoneal cavity was found, and an extraperitoneal complication later determined to explain the blood count. We add to these two cases a third from this series. In this instance a variation in the leukocyte count from 4,000 to 8,000 in two hours, associated with acute abdominal pain, led to the diagnosis of intestinal perforation, yet operation revealed a normal peritoneum. In this instance, the cause of the altered blood count remained undetermined. As has been previously pointed out, a rising white blood count is relatively infrequent in proved cases of typhoid peritonitis, and a common finding in association with certain other complications of typhoid fever.

The danger and futility of delay in order to search for leukocytosis as a diagnostic aid in suspected perforation is also illustrated by a case from this series. A low total white cell count was associated with clinical evidence pointing toward intestinal perforation. It was recorded that the absence of leukocytosis cast doubt on the clinical diagnosis, and that operation would be contemplated only in case a leukocytosis developed during the following twenty-four hours. After twelve hours, in spite of an even lower total white count, the presence of peritonitis seemed certain. The operation, which was followed by death, disclosed peritonitis from perforation of a typhoid ulcer situated 10 inches (25 cm.) from the ileocecal valve.

The diagnosis of typhoid perforation of the intestines must be determined by data other than the leukocytic findings. When this diagnosis has been made, it seems unwarranted to delay operation to await an increase in the white blood count. It seems equally dangerous to interpret a rapidly rising white blood count as indicative of typhoid peritonitis. Any delay to accumulate additional leukocyte counts for the diagnosis of the accident of perforation finds no surgical justification.

CONCLUSIONS

1. Although typhoid fever has greatly decreased in recent years, the surgical importance of intestinal perforation has not decreased.

2. From 1905 to 1924, 2,215 patients with typhoid were treated at Bellevue Hospital. Perforation of the intestines was established in 3.11 per cent. of these patients. Operative recovery occurred in 28.12 per cent.

3. The opinion that leukocytosis is a constant or usual finding following typhoid perforation of the intestines is erroneous.

4. In fifty-five cases of typhoid perforation, leukocytosis was present in but 15 per cent.; a slight rise in the white blood count in 15 per cent.; unchanged blood findings in 52 per cent., and a decided fall of leukocytes in 18 per cent.

5. Attempts to utilize these variable white blood reactions in the diagnosis of typhoid perforation of the intestines has led to repeated errors.

6. In cases presenting clinical evidence of typhoid perforation of the intestines, any delays in operating to observe further the leukocytic changes are not justified.

340 Lexington Avenue—14 West One Hundredth Street.

11. McRae: New York M. J., May 4, 1901.
12. Frank, Louis: Treatment of Typhoid Perforations, J. A. M. A. 42: 878 (April 2) 1904.
13. Courtney, Walter: Intestinal Perforation in Typhoid Fever, J. A. M. A. 45: 1714 (Dec. 2) 1905.

EFFECT OF PERTUSSIS ON THE HEART *

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Heart disease, as evidenced in particular by valvular deformity, is occasionally found in young people without a history of rheumatic fever, chorea, repeated tonsillitis, scarlet fever or diphtheria, and in whom physical examination fails to show evidence of congenital defects of the heart or great vessels. Generally, such patients show disease of the mitral or the aortic valves or of both, similar to that found after rheumatic fever or chorea. Even in the absence of a past history of such infections, it is the custom of many of us now to diagnose these cases etiologically as "rheumatic" in type. Sometimes it is possible by diligent questioning to discover that there was a probable rheumatic infection in childhood, often so mild that it may have been overlooked and labeled simply as "growing pains"; or a mild chorea may have been called nervousness or nervous prostration; or badly infected tonsils, whether enlarged or not, may be discovered. But even with diligent search, there are some cases unexplained. It is quite possible that in certain persons the rheumatic infection attacking the heart did enter by way of the tonsils or nasopharynx without much manifestation of acute illness at the time and without obvious involvement of the joints or the nervous system. However, other diseases occur in childhood, which have not been entirely exonerated from blame, and now and then opinions are read or heard suggesting that some of the unexplained cases of heart disease in young people

* From the Children's Medical Clinic of the Massachusetts General Hospital.

may have originated in the course of the so-called usual diseases of childhood.

Whooping cough, as one of the commonest of the "usual diseases of childhood," has never been carefully studied, so far as we have discovered, from the standpoint of its chronic effects on the heart. Recently, with the kind cooperation of the children's medical staffs at the Massachusetts General Hospital and the Children's Hospital in Boston and by communication with several experienced pediatricians in Boston, we have made a study of the effect of whooping cough on the heart.

LITERATURE

Osler and McCrae [1] state that:

> During the spasm the radial pulse is small, the right heart engorged, and during and after the attacks the cardiac action is very much disturbed. Serious damage may result, and possibly some of the cases of severe valvular disease in children who have had neither rheumatic nor scarlet fever may be attributable to the terrible heart strain during a prolonged attack. Koplik regards the swelling about the face and eyes as an important sign of heart strain.

Musser [2] states that acute dilatation of the heart may occur. Nothnagel [3] writes:

> Hypertrophy of the heart is also said to follow protracted cases of whooping cough. The explanation in this case is distinctly more difficult. First of all, the cause must be sought in the paroxysms of cough, which are associated with forced expiration, and hence an increase of pressure in the pulmonary and systemic arteries. In this way the cough might readily cause an increase in the work of the heart. Other factors are circulatory disturbances, possibly associated with inflammation in the bronchi, and perhaps also anomalies in the elasticity of the lungs; but before indulging in speculation it would be well to wait for a few more observations.

Greene [4] gives cardiac dilatation as one of the complications of pertussis, and Anders [5] gives pericarditis as one of the complications. Both Holt [6] and Kerley [7] seem to think that the symptoms occurring during the disease which are related to circulatory disturbance occur mainly or only during a paroxysm of coughing, and that the change in circulation is due to the paroxysm.

Pfaundler and Schlossmann,[8] writing at length, say:

> Among the complications involving the circulatory organs, the mildest ones are the previously mentioned congestive phenomena. As a result of congestion in the lesser circulation there may occur a primary dilatation, with subsequent hypertrophy of the right ventricle. Only in greatly reduced children where the violent paroxysms of coughing are excessive is this hypertrophy wanting, and, their hearts not being equal to the demand in such cases, sudden heart failure may occur. Other complicating heart diseases, such as endocarditis and pericarditis, are rare.

Rotch [9] writes:

> Koplik has noticed an increase in the area of the relative cardiac dulness during the paroxysmal stage of pertussis, which is often accompanied by a slight blowing murmur limited to the apex of the heart. This may well occur from the engorged condition of the right side of the heart, which subjects the heart to a great strain and may thus result in dilatation. The heart sounds are apt to be irregular during the paroxysms, and in protracted cases during the intervals the pulse is often irregular and accelerated, while the respirations are not increased unless some complication has arisen.

In more recent literature, Talbot [10] mentions that endocarditis rarely complicates whooping cough, but if present makes the course of the disease more severe and the outlook more serious.

Abt [11] states that:

> The heart frequently shows an early arrhythmia. On microscopic examination the heart muscles show fatty degeneration. . . . Dilatation of the right heart may be due to bronchopneumonia, but in some instances the mechanical effects of the violent whooping cough may be responsible.

Findings in Two Hundred and Thirty-Two Cases of Pertussis

Group	Total Number of Cases	Number of Cases Observed: Sex: Male	Sex: Female	Before Teeth	During Teeth	After Teeth	Age in Months: Average	Youngest	Oldest	Length of Time Observed After Pertussis (in Months): Average Time	Shortest Time	Longest Time
1	100	55	45	60	100	300	38.5	2	113	21.6	1	83
2	121	57	64	..	121	....	40.2	1	156	....	....	..
3	7	6	1	..	..	7*	51.9	....	84	....	....	..
4	1	1	..	1	..	1†	72.0	....	....	....	....	17
	1	1	..	1	1	1‡	144.0	....	....	....	....	30
	1	..	1	1	1	1§	22.0	....	....	....	....	7
	1	..	1	1	1	1¶	101.0	....	....	....	....	7

* Just convalescing from whoop.
† Possible chronic endocarditis previous to infection.
‡ Chronic endocarditis for six years.
§ Congenital heart disease; died at the age of 40 months.
¶ Chorea with possible heart disease previous to infection.

Herrman and Bell,[12] in a report of the study of 300 cases of pertussis, noted that carditis occurred in 7 per cent., but this they did not explain. Lawrence W. Smith [13] in a review of the literature on whooping cough for the last five years does not report any effect on the heart from whooping cough.

No observations concerning the effect of pertussis on the heart were found in Mackenzie's "Diseases of the Heart," Hirschfelder's "Diseases of the Heart and Aorta," Broadbent's "Heart Disease," Nelson's "Loose Leaf Medicine," Abt's "Pediatrics," Strumpell's "Text Book of Medicine," "Monographic Medicine," and "Oxford Medicine."

PERSONAL INVESTIGATIONS

Since the literature has seemed at such variance and so uncertain, the older writers tending to place some stress on the effect of whooping cough on the heart, and the newer writers tending to ignore it, we felt that it would be wise to make a study of case records concerning this point. For this purpose, cases seen in the outpatient departments of the Massachusetts General Hospital and of the Children's Hospital, Boston, were studied. Eighty-two cases were tabulated at the Children's Hospital, and 150 cases at the Massachusetts General—in all, 232 cases. In the accompanying table these cases are arranged in four groups.

Group 1 consists of 100 patients seen during and after pertussis, sixty-six of them also having been

1. Osler, William; and McCrae, Thomas: The Principles and Practice of Medicine, Ed. 9, New York, D. Appleton & Co., 1920, p. 124.
2. Musser, J. H.: Medical Diagnosis, Ed. 6, Philadelphia, Lea & Febiger, 1913, p. 471.
3. Nothnagel, quoting Hauser (Verhandl. Berl. med. Gesellsch., June 17, 1896) in Diseases of the Heart, Nothnagel's Encyclopedia of Practical Medicine, Philadelphia, W. B. Saunders Company, 1908, p. 705.
4. Greene, C. L.: Medical Diagnosis, Philadelphia, P. Blakiston's Son & Co., 1917, p. 1004.
5. Anders, J. M.: Practice of Medicine, Ed. 14, Philadelphia, W. B. Saunders Company, 1920, p. 221.
6. Holt, L. E.: Diseases of Infancy and Childhood, Ed. 7, New York, D. Appleton & Co., 1916, p. 1010.
7. Kerley, C. G.: The Treatment of the Diseases of Children, Philadelphia, W. B. Saunders Company, 1907, p. 323.
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observed previous to the illness. In no case at any time was the heart reported abnormal, or affected in any way by pertussis. These cases were followed for an average of 21.6 months each. The shortest observation was one month; the longest, seven years. In all but twelve instances, the patients were seen for six months or longer after the illness.

Group 2 comprises 121 patients seen once only, and at that time during the paroxysmal stage. The heart was reported normal in every instance.

Group 3 consists of seven patients seen in convalescence just after the whoop had stopped. In all instances, the heart was reported as negative.

Group 4 is made up of four special cases. Previous to pertussis, the first was diagnosed possible chronic endocarditis. At the time of the whooping cough the heart was said to be doing well. The patient was followed for seventeen months, and a final note was made that the heart was not diseased. The second patient had had chronic endocarditis for six years, and at the time he contracted whooping cough was 12 years old. During the infection, the heart was reported to be doing well. He was followed four and one-third years, a final note being made that he presented old, inactive rheumatic heart disease. The third was a case of congenital heart disease in a girl, a type of heart disease in which we would most expect whooping cough to produce distress. She did nicely during the infection and was followed seven months afterward, without noticeable further damage to the heart from pertussis. She was reported to have died eleven months later, at the age of 3½ years. Whether or not the whooping cough hastened her death, we cannot say. The fourth case was in a girl who had contracted whooping cough when 8½ years old. Just previously and at the time, she was under observation for possible heart disease, having recently suffered from chorea. During the infection with pertussis, her heart was said to be doing well. She was followed for seven months, and at the end of that time discharged as negative for heart disease.

In many instances the heart was examined by men who were making cardiac studies in children a specialty, and in all cases the examinations were made by careful, skilled observers.

Personal communication from Drs. John L. Morse, Richard M. Smith, Fritz B. Talbot, Henry I. Bowditch, Paul W. Emerson, Karlton G. Percy, Lawrence W. Smith and Lewis W. Hill reveals no observation of endocarditis, pericarditis or probable heart failure during or after whooping cough in their experience in well over a thousand cases. In some instances, temporary embarassment of the circulation during paroxysms of coughing, rupture of blood vessels and bronchopneumonia were found, as in the literature. In 210 cases mentioned by Dr. Percy, seven were complicated by congenital heart disease. In one of these there was bronchopneumonia during the course of pertussis. The other six patients weathered the infection without apparent difficulty. The members of the staff of the Boston Floating Hospital, including Dr. Ralph D. Leonard, the consulting roentgenologist, have found no abnormality of the heart shadow by roentgen ray, either temporarily or permanently, in approximately 700 cases studied by them.

SUMMARY

1. A review of the literature and the experience of pediatricians of the present day do not yield proof of endocardial or myocardial damage during or after pertussis.

2. Circulatory failure does not seem to occur during pertussis, though the paroxysms of whooping cough undoubtedly do produce a temporary mechanical strain, particularly on the right side of the heart.

3. No evidence of damage to the heart in any case, as a result of whooping cough, could be found in a study of a series of 232 cases seen in the outpatient departments of the Massachusetts General Hospital and the Children's Hospital, Boston, although one child had chronic endocarditis and one had congenital heart disease before infection.

4. From our study we do not find any evidence that whooping cough has a damaging effect on the heart.

DISTRIBUTION OF PHYSICIANS IN THE UNITED STATES

A COMMENTARY ON THE REPORT OF THE GENERAL EDUCATION BOARD *

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BALTIMORE

For some years past, rumblings have been heard about undesirable inequalities in the distribution of physicians. At this time the symptoms of the disease have plainly reached an acute stage. The present occasion is, I take it, somewhat in the nature of a consultation over the case, with a view of making in the first instance an accurate diagnosis of the etiologic factors concerned, and then if possible suggesting some sort of remedial treatment.

Owing to the fact that the physician is, in most instances at least, under the necessity of earning his living by the practice of his profession, it inevitably, if unfortunately, results that he becomes a part of, and hence subject to all the restrictive laws consequent on the economic structure of society. The effects of competition, the law of diminishing returns, burdensome taxes, and all the other somewhat sad and tawdry aspects of economics vex him as they do the rest of us. On this account, because, in short, the physician cannot be socially and economically set wholly apart as different from the rest of humanity, his life and circumstances are subject to the flow and interplay of general economic circumstances. In looking, therefore, for the fundamental causes underlying the present difficulty of an excess of urban and a defect of rural physicians, it will be well, first of all, to see what have been the major economic and social movements affecting the two

TABLE 1.—*Estimated Wealth per Capita of population in 1922, and Physicians per 10,000 of Population in 1920.*

Geographic Division *	A. Estimated Wealth per Capita, 1922	B. Physicians per 10,000 of Population, 1920
New England	$3,186	16.3
Middle Atlantic	3,353	16.3
East North Central	3,067	16.0
West North Central	3,586	17.0
South Atlantic	2,005	11.0
East South Central	1,437	12.1
West South Central	1,857	13.8
Mountain	3,435	16.7
Pacific	3,934	24.4

* The states included in the several divisions enumerated in this table and referred to throughout the article are listed at the end, page 1028.

* Read at the Annual Congress on Medical Education, Medical Licensure, Public Health and Hospitals, Chicago, March 10, 1925.

* From the Department of Biometry and Vital Statistics, School of Hygiene, Johns Hopkins University.

moieties of the general population which live in these two situations.

Let us consider, first, the simplest possible economic fact about the whole population in the nine geographic regions into which the country is divided by the Census Bureau for statistical purposes. The economic datum to which I refer is the estimated wealth per capita of total population. At intervals the Census Bureau makes a careful estimate of the wealth of the nation, under the advice of economic experts as to methods, and with all the resources which this great bureau of the federal government has at its command for getting information. The latest report [1] on this matter is for the year 1922. From this have been extracted the figures presented in Column A of Table 1. Against these I have set in Column B the number of physicians for each 10,000 of population for the same geographic areas in 1920. These figures are derived by taking the reciprocals of numbers in the lower half of Table 1 of the report of the General Education Board.[2]

Nothing could be more apparent than that these two sets of figures tend to parallel each other in their trends. The physicians of the country seem plainly to have done what they might reasonably have been expected to do. They have settled most thickly where the wealthiest clients were, and least densely where the poorest were.

The degree of precision of this behavior is shown in Chart 1, which is plotted to a logarithmic scale, so that relative changes from bar to bar may be visually comparable.

The correlation coefficient between the two variables of Table 1 is $+0.83 \pm 0.07$. This is a high value and indicates that the relationship between per capita wealth of population and number of physicians per unit of population in the different geographic regions of the country is a close one. In fact, we may write a regression equation that will express with considerable accuracy the number of physicians per 10,000 of population who will settle in a region following on each increase (or decrease) in the average per capita wealth of the population.

The equation is:

$$\text{Physicians per 10,000 population} = 5.50 + 0.0036 \text{ (per capita wealth in dollars)}$$

In short, we see that on the basis of recent behavior, each addition of $100 to the average per capita wealth of a region means that approximately one physician per 30,000 of population will come into the region and start business, while, for each decrease of $100 in the average per capita wealth, approximately one physician per 30,000 of population will move away to try his fortune elsewhere.

This mathematical approach to the simplest and most general economic factor in the situation lends support certainly to one aspect—the financial and economic—of the evidence presented in the report of Mayers and Harrison. The evidence shows that, disregarding all distinction between urban and rural location, the *regional* distribution of physicians in the country is in close accord with the general economic status of the several regions.

But I think it is possible to come to even closer grip with the situation, though admittedly the statistical data are not as detailed as one could wish. In Table 2, certain pertinent data are presented regarding, first, the value of all farm property per capita of rural population in each geographic region. These figures may be taken as an index of the relative wealth and prosperity of different farming regions. The figures for rural wealth were derived in the following way: The basic data as to the value of all farm property were taken from Table 13 of Volume V on Agriculture of the reports of the 1920 census.[3] But the raw figures there given are not correctly indicative of the actual economic conditions in farming communities, because the general price

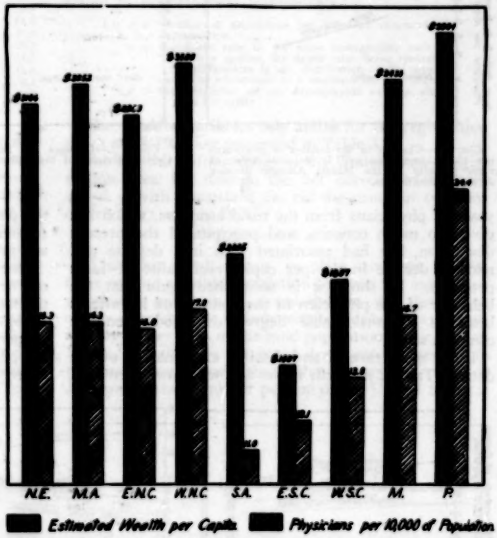

Chart 1.—Estimated wealth per capita of population in 1922 (solid bars), and the physicians per 10,000 of population in 1920 (cross hatched bars), for nine geographic divisions of the United States.

level was very different in 1920 to what it was in 1910. So, then, the raw figures for the value of all farm property as given by the census must be corrected to allow for changes in the price level. This correction was made by the use of Snyder's [4] index number for the general price level, which is probably the best of any available for the present purpose, chiefly because in calculating it account was taken of the prices for labor (wages) as well as the prices for goods. Applying these index numbers for the correction of the raw figures gives the results set down in Column A of Table 2.

Alongside these figures for the corrected value of all farm property are set in Column B the number of

1. Department of Commerce, Bureau of the Census, Washington: Wealth, Public Debt and Taxation, 1922, Estimated National Wealth, Washington, Government Printing Office, 1924.
2. Mayers, L., and Harrison, L. V.: The Distribution of Physicians in the United States, New York, General Education Board, 1924. In two regions (Middle and South Atlantic) the figures are not exactly comparable because Mayers and Harrison (p. 159) altered these groups from what is Census Bureau practice. But neither here nor in Table 2 can this alteration make any considerable difference in the results. The other regions are of course entirely unaffected by this alteration in procedure.
3. Department of Commerce, Bureau of Census, Fourteenth Census of the United States taken in year 1920, **5**, Agriculture, General Report and Analytical Tables, Washington, Government Printing Office, 1922.
4. Snyder, C.: A New Index of the General Price Level from 1875, J. Am. Stat. A. **19**: 189-195, 1924.

physicians per 10,000 of population in towns of under 1,000 population, and in Column C the number of physicians in towns of from 1,000 to 2,500 population. These figures were derived by taking the reciprocals of the data in Table 7 (pp. 168-169) of the report of Mayers and Harrison.[2] They cover essentially the *rural* physicians of the country.

In Table 2, New England has to be omitted because of lack of comparable data for that geographic region.

From the most casual inspection of the figures in this table, it is apparent that generally the exodus in recent years of physicians from the rural locations, which has given so much concern, and precipitated the present discussion, has had associated with it a definite and marked decline in the per capita *real* value of farm property. In short, it is seen once again that the behavior of the physician in the conduct of his affairs betokens a considerable degree of good economic common sense.

But a more careful and detailed examination of the data of Table 2 is worth while, and will now be entered on. As a first step, the data of this table are shown graphically in Charts 2 to 9, inclusive.

It is unfortunate from the standpoint of detailed statistical analysis that Mayers and Harrison did not take an intermediate observation on physicians between 1906 and 1923, particularly because of the very marked economic and social changes that occurred in respect of rural life during the period. It is possible, perhaps even probable, that if they had, the trend lines for the movement of rural physicians would not be straight, as here represented, but would perhaps be nearly flat, or even rise slightly until about 1910 and then decline. This lack of intermediate points over this period does not, however, in the slightest degree alter or invalidate the fact that in 1923 physicians were fewer in proportion to population in these small town (essentially rural) communities than they were in 1906. In only one region (East North Central) is the slope of any physician trend line upward, and there only slightly so.

In every case in which there is a detectable difference, the downward slope of the physician trend line is less steep in the case of the towns of less than 1,000 population than it is in the case of towns of from 1,000 to 2,500 population. But the differences in slope between the physician trend lines for the two groups of towns (under 1,000 and from 1,000 to 2,500) are all small, and probably not significant statistically.

In every case but one (Middle Atlantic), the trend of one or both of the physician lines very closely parallels the trend of the *real* value of farm property. In the Middle Atlantic group of states, the slope of the farm property line is distinctly steeper than that of either of the physician lines. But in general it is clear that in nearly all parts of the country the relative rate at which the available medical service in rural areas has declined in recent years has been almost exactly the same relative rate that has measured the decline in rural wealth, as indicated by the real value of all farm property.

Summarizing the discussion to this point, it may be said that whether one looks at the distribution of physicians relative to large geographic regions, or at the movement of physicians away from rural communities, the same outstanding fact emerges. The economic situation of the region, as such, or the change of the economic situation in time, parallels the facts regarding the relative frequency of physicians. It is difficult to escape the inference that the former is one of the pri-

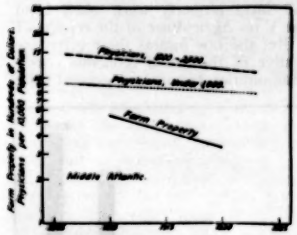

Chart 2.—Changes in the number of physicians per 10,000 population and in the real value of farm property in the Middle Atlantic division of the United States.

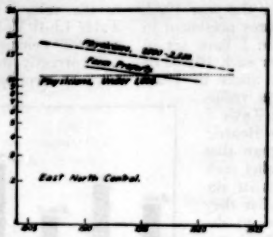

Chart 3.—Changes for the East North Central division of the United States.

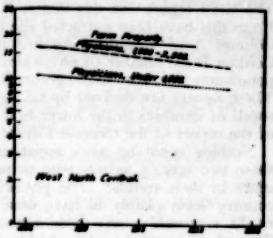

Chart 4.—Changes for the West North Central division of the United States.

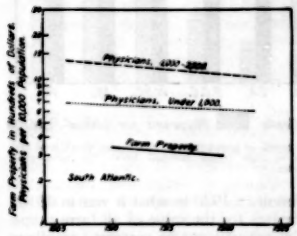

Chart 5.—Changes for the South Atlantic division of the United States.

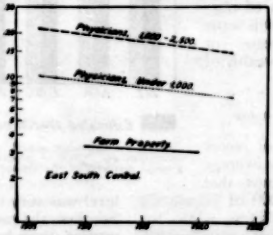

Chart 6.—Changes for the East South Central division of the United States.

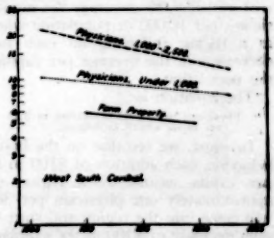

Chart 7.—Changes for the West South Central division of the United States.

mary causal factors in the production of the fact observed about the latter. The physicians behave, in the conduct of life, about as any group of sensible people would be expected to. They do business where business is good, and avoid places where it is bad. Like any other normal person, the physician wants to make a decent living. Experience has shown him that it is harder to do this in the country than it is in the city. Therefore, he either sticks to or moves to the city.

TABLE 2.—*Value of Farm Property by Geographic Divisions, in 1910 and 1920, and the Number of Physicians in Small Towns in 1900 and 1923*

Geographic Division	Value of All Farm Property per Capita of Rural Population, Corrected for Changes in Price Level		Number of Physicians per 10,000 of Population in Towns of Under 1,000 Population		Number of Physicians per 10,000 of Population in Towns of from 1,000 to 2,500 Population	
	A		B		C	
	1910	1920	1906	1923	1906	1923
Middle Atlantic.....	$ 551	$ 332	9.1	7.8	14.5	10.9
East North Central....	1,221	961	10.6	10.8	18.1	11.6
West North Central....	1,816	1,681	10.6	8.5	16.9	11.9
South Atlantic.....	338	298	6.8	6.0	13.4	10.2
East South Central.....	332	301	10.1	7.2	21.3	14.5
West South Central....	586	492	10.2	7.8	21.6	11.6
Mountain	1,086	904	9.1	7.1	12.4	8.7
Pacific	1,601	1,181	9.3	8.6	11.3	10.7

It seems to me, with all due respect for the argument in favor of the view I am opposing, improbable that the physician's behavior in this matter will be essentially altered by giving him a cheaper medical education. Some have argued that by definitely shortening the time of medical education the situation and tendencies under discussion will be changed for the better. It seems to me that this argument can be logically maintained only on the assumption that a lowering of the standards of medical education will attract into the profession persons who are so mentally debased and generally idiotic that they will not display that degree of common sense in the conduct of their individual economic lives, as evidenced by their geographic distribution, that we see exhibited every day by common laborers, chiropractors, or even college professors. My argument is that after a young medical man gets out in the world and by hard experience learns economic wisdom, his behavior thereafter relative to location will not be different according to whether his education was expensive or cheap.

If I have dwelt more in this paper on the economic than on the social factors in the problem, it is not to be taken as meaning that the latter are less important than the former. As a matter of fact, as Mayers and Harrison in my judgment conclusively demonstrate in their report, the alteration in the social conditions of life in rural communities that has come about in recent years is of great significance in explaining the drift of physicians away from these communities. These social changes have been most significant in the direction of extending the farmer's powers of communication with the rest of the world. He is no longer living in an isolated environment. First, better roads, then the rural trolley lines, the telephone, the automobile, and now the radio have enormously altered the complexion of rural life. If today the farmer's child is sick, he can telephone to a physician in the nearest large town or city, and if this procedure does not wholly settle the case he can in his own automobile go and fetch the physician to his home, in probably less time than elapsed thirty years ago in getting the local physician there in his buggy. In fact, I believe that a careful and sufficiently detailed study of particular rural areas will show in most cases that they are actually receiving better medical service today with fewer local physicians per thousand of population, or even no local physicians at all, than they did say twenty-five years ago with local physicians in a ratio to population which every one considered adequate.

On this phase of the matter there is another point to which attention should be directed. It may first be stated in mathematical terminology:

Let x = number of physicians per hundred thousand of population.
y = the death rate in the same demographic unit to which x applies, the death rates being corrected for differences in age distribution of the population by adjustment to a standard age distribution.
z = the population of the demographic unit to which x and y apply.

The data for variables x, y and z for the registration states as of 1920 are presented in Table 3.

For the thirty-four states in the United States registration area for deaths, the net correlation between x and y, with z constant (to rid the result of spurious correlation) was, in 1920,

$$r_{xy.z} = -0.16 \pm 0.11$$

What this result means, in plain language, is that there was no sensible correlation between the number of physicians per unit of population in the thirty-four commonwealths that include within their borders approximately 80 per cent. of the total population of the United States, and the age corrected death rates observed in the same commonwealths. Put in another way, it appears that in the major portion of the United States it made no significant difference in the mortality rate of a community in 1920 whether that community had few or many physicians per unit of population.

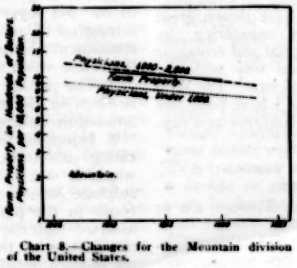

Chart 8.—Changes for the Mountain division of the United States.

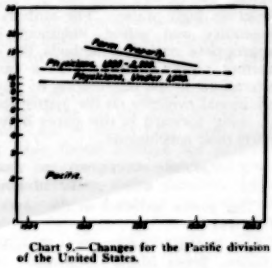

Chart 9.—Changes for the Pacific division of the United States.

Two morals suggest themselves from this result. The first is that perhaps the chief social and human value of the physician is in alleviating suffering rather than in preventing death, at which last task he must in every case ultimately fail. The second is that we seem to have here in some part a mathematical demonstration of the wisdom inherent in the now proverbial remark to the effect that while there is a great difference between a good physician and a poor one in respect of the results

of their activities, there is no significant difference between a good physician and no physician at all.

It must be apparent by this time that what I have done in the preparation of this paper has been in a very modest way to make some statistical tests of my own as to the validity of some of the conclusions set forth in the report from the General Education Board which I was invited to discuss. For the report itself I have only admiration and respect to express. As a piece of sociological, economic and educational research, it deserves high praise. The authors have shown great ingenuity and sound judgment in uncovering, by appropriate statistical methods, the social and economic factors chiefly concerned in a causal way with the alterations in the distribution of physicians. The little additional evidence on the matter that I have been able to bring forward in this paper only confirms and supports their conclusions.

TABLE 3.—*Data for Determining the Net Correlation Between Number of Physicians per Hundred Thousand of Population, and Adjusted Death Rate, for Constant Population; Registration States in 1920*

State	Physicians per 100,000 Population A	Adjusted Death Rate B	Population C
California	198.8	12.6	3,426,861
Colorado	188.6	14.6	939,629
Connecticut	124.5	13.0	1,380,631
Delaware	123.3	13.8	223,003
Florida	147.8	13.5	968,470
Illinois	165.6	12.6	6,485,280
Indiana	146.1	12.1	2,930,390
Kansas	143.7	10.5	1,769,257
Kentucky	127.3	11.8	2,416,630
Louisiana	108.3	13.4	1,798,509
Maine	143.6	12.4	768,014
Maryland	162.3	14.5	1,449,661
Massachusetts	155.9	14.0	3,852,356
Michigan	121.7	13.4	3,668,412
Minnesota	119.0	10.6	2,387,125
Mississippi	92.5	13.4	1,790,618
Missouri	177.6	11.9	3,404,055
Montana	114.8	10.3	548,889
Nebraska	149.9	9.7	1,296,372
New Hampshire	143.3	12.2	443,083
New Jersey	111.0	13.2	3,155,900
New York	162.7	13.6	10,385,227
North Carolina	83.5	13.5	2,559,123
Ohio	137.2	12.0	5,759,394
Oregon	158.5	11.0	783,389
Pennsylvania	130.7	13.7	8,720,017
Rhode Island	122.4	13.9	604,397
South Carolina	80.7	15.7	1,683,724
Tennessee	118.2	12.5	2,337,885
Utah	111.9	12.1	449,396
Vermont	160.6	12.3	352,428
Virginia	103.9	13.7	2,309,187
Washington	146.4	11.1	1,356,621
Wisconsin	105.6	10.6	2,632,067

STATES INCLUDED IN THE VARIOUS GEOGRAPHIC DIVISIONS

The states included in the several divisions are as follows:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut. Middle Atlantic: New York, New Jersey, Pennsylvania. East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin. West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South Atlantic: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida. East South Central: Kentucky, Tennessee, Alabama, Mississippi. West South Central: Arkansas, Louisiana, Oklahoma, Texas. Mountain: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada. Pacific: Washington, Oregon, California.

Mayers and Harrison include Delaware, Maryland and District of Columbia in the Middle Atlantic, instead of in the South Atlantic, states.

625 St. Paul Street.

USE OF INDWELLING CATHETER TO INDUCE PASSAGE OF URETERAL STONES *

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AND
LEO J. HAHN, M.D.
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In general we have at our disposal two methods for the removal of calculi from the ureter, the open operation and cystoscopic manipulation.

The open operation is definitely indicated for some stubborn stones that do not respond to cystoscopic methods, especially the impacted stones that completely block the ureter, the large stones, the stones that do not move after repeated attacks of colic, and those stones associated with severe uncontrollable infection of the kidney. There are, however, good reasons for avoiding open operation, whenever there is a good chance of ridding the ureter of the stone by a simpler method. Although the operative mortality of ureterolithotomy is now almost nil, the postoperative complications early and late are sufficiently frequent to make it desirable to narrow the indications for open operation as closely as possible. Subsequent ureteritis and periureteritis causing kinks or strictures of the ureter with kidney infection may produce so much damage as to necessitate a later nephrectomy. In addition, there is to be considered the tendency for recurrence of stone. Therefore, any addition to the numerous methods already described for inducing stones to pass without operation should be welcomed.

Since 1904, when Bransford Lewis [1] introduced instruments for removal of ureter stones by cystoscopic manipulation, a whole series of methods have been evolved which aim to remove or encourage the passage of calculi, particularly those in the lower ureter.

1. The simple passage of the ureteral catheter will sometimes dislodge a stone, or, as Braasch and Moore [2] suggest, change its axis so that it will be passed. One of us [3] has suggested that the mechanism may be the setting up of an edema at the site of the stone, with consequent obstruction and increased pressure behind the stone, which acts as a driving force.

2. The passage of several catheters may dilate narrowings in the ureter which may be preventing the onward movement of the stone.

3. Injections through the ureteral catheter of lubricating substances, such as sterile oil, or of procain, which is said to relax the ureter, or of magnesium sulphate have been found by Crowell [4] and others to result in the passage of many stones. André [5] has asserted that the important factor in this method is the passage of the catheter rather than the action of the fluids injected.

4. Meatotomy of the ureteral orifice may be successfully practiced when the stone is impacted in the intramural part of the ureter, by the use of scissors or fulguration.

5. Dilation of the ureter with olive bougies, the Garceau catheters, the Bransford Lewis dilator or other

* From the Surgical Service, Mount Sinai Hospital.

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contrivances, or pushing the stone back and dilating the narrow part of the ureter, are other methods that are effective at times.

6. Sandwiching the stone between several catheters or bougies and removal of the stone in the embrace of the bougies is a method that gives an occasional successful result.

7. We would call attention once more to a method of which we have made use during the last one and one half years and which we believe should be used more often in cases of calculi lying in the lower half of the ureter. This method consists simply in passing a catheter beyond the stone and allowing it to remain there for from two to five days. This procedure may result in the passage of the calculus within a few hours after the withdrawal of the catheter.

The mechanism is not clear. Perhaps the edema of the mucous membrane which holds the stone is allowed to subside; perhaps some traction on and dislocation of the stone are caused by withdrawal of the catheter; perhaps dilatation of the ureter is the chief factor. Whatever the mechanism, it has two great advantages over other methods in this category: (1) a single treatment frequently suffices to deliver the stone, and (2) stones are passed with very little pain.

This method was suggested to us after an experience of one of us (E. B.) in a case of calculous anuria. Indwelling catheters had been left in the ureters beyond the obstruction for three days in order to drain the kidney pelves, and were then withdrawn. The next day a stone was passed without colic, giving one the impression that the catheter's withdrawal had been accompanied by the withdrawal or delivery of the stone from the ureter.

Following this experience, the method has been tried in twenty-seven cases in Mount Sinai Hospital and has accomplished the passage of at least ten stones. Of the twenty-seven cases in which it was tried, the diagnosis of stone was very doubtful in one case. Four additional cases were not favorable for the use of this method, the stone being rather large or high up in the ureter. Of twenty-two cases in which this method might seem to have been indicated, there were ten proved successes, or 45 per cent. Two additional patients almost certainly passed the stone in the hospital, as evidenced by cystoscopic findings before and after; but as the stone was not recovered, these are not included in the ten successes. Two other stones were passed after discharge from the hospital. In other words, out of twenty-two cases, probably fourteen successful deliveries were obtained (60 per cent.).

Sometimes the catheter may have slipped out of the ureter. In how many of the unsuccessful cases this has happened we cannot say, as roentgen-ray studies to check up this point were not made. The method is simple and apparently without danger. We have seen no bad results in our cases, although bacteriologic studies have not yet been made.

In one case we were able to show definitely that no damage had been done by this procedure. Following the removal of a catheter, which had been left in the ureter for five days, this patient passed a stone from the left ureter. He returned in two months with a stone in the right ureter, which likewise responded to treatment by the method under discussion. At the cystoscopy we were very much pleased to find that the left kidney, which two months previously had been discharging purulent urine, had cleared up completely, and its urine was crystal clear.

The indwelling catheter, in addition to effecting the passage of ureteral stones, also usually drains the kidney and relieves it of back pressure and infection.

A search of the literature shows that this method was mentioned by Marion and Heitz-Boyer in their manual (1914), and used by André[5] in 1920. He reported three successful results. More recently, Joseph and Janke[6] as well as others, have mentioned this procedure.

The usefulness of the indwelling catheter is emphasized by comparing our recent results with the results obtained before the adoption of this method. In a series of 114 cases definitely diagnosed as ureter stone, twenty-three stones, or 20 per cent., were passed at or following cystoscopic manipulation. In this series of 114 cases occurring before the indwelling catheter was used, seventy-six were favorable cases, and twenty-three stones, or 30 per cent. of these, passed following one or more cystoscopic manipulations. Thus there is a definite gain of from 50 to 100 per cent. by the use of the indwelling catheter over the other cystoscopic methods we have used.

It should be understood that this method is useful only for the smaller or medium sized stones, particularly those in the lower half of the ureter. We feel that this method is harmless, and if used intelligently will lead to the comparatively painless passage of many more ureteral stones following the first manipulation than otherwise would pass.

INTESTINAL PARASITES AMONG FILIPINO FOOD HANDLERS*

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AND
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Many of the Filipinos that come to the United States find employment in the handling of food supplies. In the public institution here surveyed, some of them are employed as waiters, as bus boys and in the kitchen. A survey of such a group included routine stool examination with direct smears and centrifugalized sediments. The results of these examinations are given in Table 1.

In view of the high percentage of infestation, it is rather surprising that none of the men showed any marked symptoms. Out of thirty-four cases examined, twenty-eight were found positive for parasites. Twenty-two of these positive patients harbored either a double or triple infestation. The parasites found were hookworm, in twenty-one cases; *Trichuris*, sixteen cases; *Ascaris*, two cases; *Fasciolopsis* and *Hymenolepis* in one case each, and protozoa in twelve cases.

Compared with the incidence of intestinal protozoa in medical patients in the Stanford service, we find the percentage of infested Filipinos greatly in excess. The number of positive findings among hospital and clinical patients was found to be 22 per cent. in 7,000 patients examined. Only 4 per cent. harbored helminths. Among the Filipinos, 72.4 per cent. were infested with hookworm and 42.9 per cent. with protozoa.

While the number of persons examined in this series is small, it indicates a source and dangerous means of

6. Joseph, E., and Janke, H.: Ztschr. f. Urolog. **18**: 576 (Aug.) 1924.

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spread of animal parasites in this country. The protozoan parasites are particularly apt to be distributed by food handlers. The helminthic parasite must pass a part of its life cycle outside the body of its host, and therefore is not so apt to be transferred directly to noninfected persons through the handling of food supplies.

All the hookworm patients were given routine treatment with carbon tetrachlorid. Each person found infested with hookworm was admitted to the hospital in the morning and given 10 c.c. of carbon tetrachlorid, with a few drops of peppermint water, by mouth. No cathartic was used. On the following morning the patients were discharged, with the exception of two who were nauseated and held in the hospital until evening. The results of one treatment are given in Table 2. Nineteen patients were treated for hookworm. Adult worms were removed in fourteen cases. Adult ascarids were found in two cases, and the ova in three cases. We did not find any adult *Trichuris*, *Hymenolepis* or *Fasciolopsis*. *Trichuris* ova were recovered in six cases; *Hymenolepis* and *Fasciolopsis* ova in one case each. Protozoa alone were found in four cases. The number of hookworms recovered was small, although one case yielded sixty-seven worms. Ascarids were recovered by this treatment in two out of three patients infested.

Fourteen patients treated with carbon tetrachlorid were reexamined two months later. As indicated in Table 3, no ova of either hookworm or *Ascaris* was found. The carbon tetrachlorid did not affect any of the other worms or protozoa.

TABLE 1.—*Results of Stool Examinations Among Filipino Food Handlers*

	Number	Per cent.
Cases examined	34	
Cases found negative	6	17.6
Positive cases	28	72.4
Cases with single infection	11	32.3
Cases with double infection	15	44.1
Cases with triple infection	7	20.3
Ova of hookworm	23	61.7
Ova of Trichuris trichiura	16	47.
Ova of Ascaris lumbricoides	2	5.9
Ova of Fasciolopsis buskii	1	2.6
Hymenolepis	1	2.6
Ameba cysts	10	26.4
Cysts of Giardia intestinalis	2	5.9
Endameba coli	9	23.5
Endolimax nana	1	2.6
Iodameba bütschlii	1	2.6

TABLE 2.—*Results of Treatment with Carbon Tetrachlorid*

Cases treated for hookworm infestation	19
Adult hookworm removed in	14
Ova of hookworm found in	16
Adult Ascaris found in	2
Ova of Ascaris found in	3
Ova of Trichuris found in	6
Hymenolepis found in	1
Giardia found in	1
E. coli found in	3
Fasciolopsis buskii in	1

TABLE 3.—*Results of Reexamination Two Months After First Treatment*

Cases checked by three stool examinations two months after treatment	14
Cases negative for hookworm ova	14
Cases negative for Ascaris	3
Patients nauseated	6
Patients with no stool, given enema	6
Patients complaining of dizziness and headache	2

The only toxic symptoms noted as a result of this treatment were nausea and vomiting in six patients, and dizziness with headache in two patients. All, however, except two, could be discharged the next morning, although some were unable to carry on their duties the following day.

Carbon tetrachlorid did not always act as a cathartic. In many cases there were no evacuations or only one evacuation in the eighteen hours following administration. We did not attempt to supplement the carbon tetrachlorid with cathartics. In the majority of cases in which there was only one stool, or in which an enema was needed, the patients were nauseated or vomited.

ROUTINE URINE EXAMINATIONS IN UNIVERSITY ENTRANTS

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At the University of California, a compulsory physical examination is required of all students on matriculation. This is for the purpose of determining for the health service the health condition of the student, as to whether there are present any physical defects or infectious disease. This record is utilized on every occasion on which hospital or dispensary care is required, as it contains the full personal and family history, the complete physical findings, including the chest, abdomen and extremities, eye, ear, nose, throat, dental and urine findings. The same record is used by the military and physical education departments to determine whether the student can qualify for military duty or is eligible for the various athletic activities.

During the fall semester of 1924, 1,224 men students, averaging in age from 18 to 20 years, were given complete chemical and microscopic urine examinations. It may be of interest to learn that in this selected adolescent group, whose whole lives were devoted to school activities, 4.2 per cent. were found to have abnormal urine findings. In several of the samples submitted, two or more abnormalities were found.

Of the fifty-one students whose urine specimens were regarded as abnormal, the following conditions were present: albumin (faint trace), 34; albumin decided trace), 6; sugar reduction, 3; mucus, 21; pus cells, 17; red cells, 4; granular casts, 4, and hyaline casts, 6.

All these student cases were followed up, and it is of interest to observe the actual end-results and diagnosis. The specimens with faint traces of albumin determined in this group, in the majority of instances, were found to be physiologic, either as a result of a preliminary shower, or the escape of prostatic secretion during the excitement of the examination and the straining in the act of micturition. These cleared up on subsequent examinations.

Of the six with decided traces, with or without casts, two were nephritic and one had a history of previous eruptive fevers. In three cases with red and white cells in the urine, two proved to be tuberculosis of the kidney and one a case of nephrolithiasis. The diagnosis was confirmed by cystoscopic and roentgenray examination and animal inoculation.

The patients that needed surgical treatment were referred for operation, and the remainder were treated medically. The point to be made is that, with the exception of one case, none of these students realized that they possessed any kidney or bladder lesions—a rather

eloquent argument as to the value of routine urine examinations. It is labor worth while, for the reward is so satisfactory, since chronic destructive pathologic changes are prevented, which ordinarily are determined only when constitutional symptoms are present, and when therapy offers little prospect of alleviation.

UNILATERAL HEMORRHAGIC GLOMERULAR NEPHRITIS

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Until recently the so-called medical kidney diseases were not classified carefully, and the terms Bright's disease, nephritis and nephrosis were used as practically synonymous and interchangeable. Pathologic research and the comparison of such findings with clinical evidence finally made it apparent that a fundamental distinction must be made between the disorders of the renal vascular system and those concerning the tubular system. The involvement of the former unit is now called nephritis, while the term nephrosis is reserved for disturbances within the tubular system. Nephritis is a derangement of an inflammatory character; nephrosis is characterized by trophic degenerative processes.

The pathology of hemorrhagic glomerular nephritis is dominated by ischemia. Macroscopic inspection will furnish points of importance in this respect. After removal of the fibrous capsule, numerous red punctations are seen. These will be observed also on the cut surface of the cortex. In pronounced cases the clogged glomeruli protrude as tiny red nodules, and may easily be lifted out by the point of a scalpel.

Even in the initial stages of nephritis, the microscopic investigation furnishes characteristic pictures. The cellular elements of the glomerular apparatus are greatly increased, the increase concerning mainly the endothelia of the capillaries and of the visceral lamella of the capsule of Bowman.

In other cases the cells of the parietal lamella are involved, also causing their proliferation into the capsular lumen, thus compressing the glomerular loops and giving the glomerulus a typical crescent shaped appearance. Leukocytes and erythrocytes in various amounts are to be seen in the capsular lumen.

The cardinal clinical symptoms of glomerular nephritis are the appearance of blood and albumin in the urine, a pronounced rise of blood pressure, and the changes of the blood chemistry, including retention of nonprotein nitrogen and indican in the blood. This retention is due to the disturbance in the functional capacity of the kidneys affected. The nephritic organ loses its elasticity of function; it cannot readily adjust itself to changes in the bodily metabolism. This weakening of the functional capacity concerns the elimination of fluid as well as that of the urinary solids. A nephritic kidney is unable to eliminate a surplus of fluid intake in a normal space of time, and is unable to concentrate properly under reduction of the fluid intake. In other words, the specific gravity of the urine will gradually decrease under limited fluid intake. These two deficiencies of a diseased kidney are comprised under the term hyposthenuria. The glomerular nephritis is produced as a rule by inflammatory agents or products which reach the kidney from infectious foci somewhere in the body, such as tonsillitis or furunculosis, or they are furnished by a general infection, as, for instance, scarlet fever.

In some instances, nephritis is caused by the intake of certain chemicals; but such a nephritis is always bilateral and does not come under the scope of this paper.

It is still generally believed that glomerular nephritis is always a bilateral affection and may not be confined to one kidney. This assumption is erroneous.

Affirmative answers to the following postulates will establish the correctness of this assertion: It must be demonstrated that glomerular nephritis is present; that only one kidney produces the bloody and albuminous urine, while the urine coming from the other side is free of pathologic admixtures, and that only one kidney is hyposthenuric while the functional capacity of its mate is not impaired.

It is surprising to notice that this problem has not been investigated more generally, because there are available in the literature clinical and therapeutic reports which point to the possibility of such a thing as a unilateral glomerular nephritis.

An American observer, H. Frankenthal, first called attention to the fact that hematuria is observed occasionally in cases of appendicitis, and that it promptly subsides after appendectomy. This hematuria, as a rule, is accompanied by pains and sensitiveness in the right renal region.

Later, French authors catalogued these cases as "renite appendiculaire." The connection of these nephritic symptoms with appendicitis may be readily explained by German research work demonstrating that there is a direct lymphangiotic communication between the cecum and the right kidney, which again points to the probability of a unilateral renal involvement. The analysis of certain therapeutic results also indicates that in certain nephritic cases only one kidney was involved. It was observed that after renal decapsulation performed on one side only, all the renal and general symptoms subsided, which result made it highly improbable that the nephritis was bilateral. Israel and Roesing repeatedly hinted at the possibilities of unilateral nephritis, but without furnishing convincing detailed information.

I have examined thoroughly five patients with appendicitis accompanied by hematuria, in whom all the information pointed to nephritis confined to the right kidney. In all these, hypertension was present and cystoscopy demonstrated that the bloody urine came out of the right ureteral opening only. Catheterization of the ureters furnished the following information: Indocarmin elimination was retarded and decidedly less intensive on the right side. Only the right urine showed admixture of blood, and the total quantity of the fluid gleaned from the right side was pronouncedly less than that collected from the left side, during the same space of time. After a period of desiccation, the urine collected from the right side showed low specific gravity, while the left kidney evidenced full power of concentration.

In two cases I had a chance to repeat the complete cystoscopic examination three weeks after the appendectomy. In both these cases, the two kidneys showed equally normal function at this period.

The observation of a series of cases of so-called occult or essential hematuria in adults also furnished corroborative material for the correctness of the assertion that there is such a clinical entity as unilateral glomerular nephritis.

In twenty-three cases of this kind, the diagnosis of a one-sided glomerular nephritis was established according to the criteria mentioned above. In eleven of these cases the decapsulation of the kidney diagnosed as nephritic furnished a complete and lasting result. The hemorrhage ceased, and the kidney regained and retained its normal capacity. These results also militate in favor of the diagnosis of unilateral glomerular nephritis.

Similar observations were made in children. We have records of fourteen cases of unilateral glomerular nephritis in infants, diagnosed as such in conformity with the postulates here formulated.

The diagnosis of unilateral glomerular nephritis is not only important from the point of view of clinical recognition but is also valuable in other directions. In case surgical intervention should be decided on, the discovery that only one kidney is nephritic will, of course, determine on which side decapsulation is to be undertaken. It is also the experience of urologic surgeons that a one-sided renal disorder, if left uncorrected for a long time, is apt to disturb the functional efficiency of the other kidney by the transmission of nephrotoxic and nephrolytic elements, and eventually may even lead to organic changes in the second kidney. Early discovery and treatment of unilateral glomerular nephritis will prevent subsequent impairment of the other kidney.

Hematuria following a focal or general systemic infection will immediately turn the trend of thought toward glomerular nephritis. Observation of concomitant hypertension, and the presence of blood and albumin in the urine, are corroborating data. Nitrogen and indican retention in the blood, and lack of concentration of the urine under restricted fluid intake will round out the clinical picture indicating an involvement of both kidneys. If, however, in spite of the presence of hypertension and of blood and albumin in the urine no change in the blood chemistry is to be found, and if undivided urine collected from the bladder shows proper concentration under desiccation of the patient, the suspicion is well founded that only one kidney is involved in the nephritic process, while its mate is attending in a sufficient way to the proper elimination because one of the first symptoms of glomerular nephritis is pronounced hyposthenuria.

As in other cases of hematuria, however, the diagnostic investigation must not stop here. It is imperative to resort to the ocular inspection of the urinary bladder in order to establish with absolute certainty the origin of the blood mixed with the urine.

In order to avoid unnecessarily repeated instrumentation of the patient, cystoscopy is performed after a twelve hour period of desiccation of the patient; the cystoscope employed is adjusted to mere ocular inspection as well as to bilateral catherization of the ureters without changing the conducting tube. The ocular inspection will reveal whether the blood comes out of one or both ureteral mouths. It will enable the operator to compare the frequency of the ureteral jets on either side without any reflex interference possibly produced by the insertion of the ureteral catheters. Bilateral insertion of the ureteral catheters enables collection of urine separately from either kidney.

The collected specimens are tested as to the quantity produced in the same unit of time, the time of appearance and intensity of the indigocarmin stain, molecular concentration, and chemical and microscopic composition.

Roentgen-ray examination of the patient will furnish information as to the presence or absence of renal concretions, and will permit a comparison of the renal shadows. The nephritic kidney as a rule presents a larger shadow than that of its healthy mate.

Once the diagnosis is made, proper therapy should be started. Inflammatory foci that are still present must be removed, and the proper antinephritic dietetic treatment administered. A prominent feature of the diet is the reduction of the fluid intake to the lowest possible level.

If this regimen fails to produce results promptly, decapsulation of the nephritic kidney may be performed. This should carried out with the least possible damaging of the structures. If feasible, paravertebral nerve blocking should be employed, doing away with the detrimental influence of a general anesthesia. In every case, an attempt should be made to approach the kidney through a muscle-splitting incision. The kidney itself should be handled as little as possible, in order to prevent any bruising of the parenchyma. If feasible, the kidney should be decapsulated in situ.

In the postoperative stage, the general regimen indicated in nephritis must be continued until complete recovery is ascertained.

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DEEP-SEATED LIPOMAS *

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Lipoma is encountered by every clinician so frequently in one site, the subcutaneous tissues, that the possibility of its occurrence in other areas is easily forgotten. For that reason a brief report is here made of four cases of simple lipoma situated in and beneath the muscles.

Intramuscular lipoma is exceedingly rare. Less than forty cases have been recorded.[1] Submuscular and intermuscular lipoma occurs somewhat more frequently. Pichler believes that intramuscular lipoma is more frequent than it is ordinarily considered. We are not considering, it is to be remembered, the impure types of lipoma, such as the lipomyxoma, which may be malignant and invade the musculature.[2]

The history and examination of the ordinary subcutaneous lipoma usually permits but one diagnosis. In at least three of the present series, the deep situation led to confusion, so that, although lipoma was a suggested diagnosis, it was considered only as an alternative possibility. Rupture of muscle, intermuscular abscess and sarcoma were other diagnoses. It is interesting to remark that one case has been recorded (cited by Nast-Kolb) in which amputation of a leg was performed for intermuscular lipoma with the idea that the lesion was malignant.

The physical findings in the examination of these deep lipomas will vary with the site. The usual elastic or semifluctuant consistency of the tumor may be masked by the depth of muscle under which it lies. Similarly, the sharp outline of its border may be hidden.

* From the Department of Surgery, Washington University School of Medicine.

1. Dertinger: Ueber tiefsitzende Lipome, Beitr. z. klin. Chir. (Bruns') **33**:76, 1903. Dorn: Ein Fall von intramuskulärem Lipom, ibid. **115**:424, 1919. Nast-Kolb: Intramuskuläres Lipom, ibid. **127**:465, 1922. Pichler, K.: Ueber Muskel Fettgeschwülste, Wien. klin. Wchnschr. **35**:887, 1923.

2. Speed, Kellogg: Lipoma of the Thigh, Arch. of Surg. **8**:819 (May) 1924.

Again, as in Case 4, the border may become clear when the overlying muscle is in complete relaxation. It is important to examine these tumors with the extremity in every conceivable attitude, and with the overlying muscle in contraction and in relaxation. The distortion of normal muscle relations by the tumor may produce the symptoms of pain and early fatigue.

REPORT OF CASES

CASE 1.—*Intramuscular lipoma.* A white man, aged 57, a laborer, was referred for opinion by Dr. H. W. Wiese, to whom I am indebted for this record. Ten weeks previously, while the patient was carrying one end of a bunch of gas-pipes on his left shoulder, the man carrying the other end dropped his burden without warning. The pipes slipped from the patient's shoulder and struck him on the wrist. Three days later a lump appeared on the anterior aspect of the left shoulder. The man kept on working, and the lump gradually became larger. During the past few days, the shoulder had ached while the patient was at work. Examination showed a rounded mass about 6 cm. in diameter at the anterior edge of the left deltoid muscle. It was elastic, and became flattened and hardened when the deltoid was contracted. Roentgen-ray examination of the shoulder was negative. Operation revealed a lipoma about the size of a hen's egg lying within the substance of the deltoid muscle, completely surrounded by muscle fibers. It was encapsulated, and shelled out easily.

CASE 2.—*Submuscular lipoma.* A colored women, aged 61, entered Barnes Hospital, Nov. 2, 1923, with a typical carcinoma of the left breast of five months' duration. In addition, she had noticed a lump on the left shoulder for two years. Examination of the latter showed a spherical lobulated tumor, 8 cm. in diameter, at the anterior margin of the left deltoid muscle. The skin was not attached to the mass. No description is recorded of the relation of the contracted muscle to the mass. A radical resection of the breast was performed by Dr. Barney Brooks, and also the tumor of the left shoulder was excised. It was 5 cm. in diameter and lay under the deltoid muscle. Microscopic sections showed simple lipoma.

CASE 3.—*Submuscular lipoma.* A white man, aged 42, entered the Barnes Hospital, Sept. 29, 1924, complaining of a lump in the upper right thigh, and pains in the back and right leg. The latter dated back to an injury nineteen years previously. At the present time (January 25), the diagnosis of the back symptoms is not complete. The swelling in the right thigh was first noticed two years before entrance. Examination showed a large diffuse swelling on the anterior aspect of the proximal third of the right thigh. It was apparently beneath the muscles, and did not pulsate. Fluctuation was doubtful. Aspiration of the mass was negative. The circumference of the right thigh was 65 cm.; of the left, 61 cm. At operation by Dr. Barney Brooks, incision was made between the tensor fasciae femoris and the rectus femoris, and the tumor was shelled out. It completely embraced the greater trochanter, and extended posteriorly to the sciatic nerve. Pathologic examination showed a pure lipoma.

CASE 4.—*Submuscular lipoma.* A white woman, aged 61, seen, Nov. 11, 1924, complained of pain in the left ankle and a lump in the left thigh. The former proved to be a slight sprain. She had noticed the lump in the thigh for about three years. It had gradually grown larger, but had given no discomfort until the ankle was injured. This injury cleared up in about three weeks. After it was well, there was continued pain in the region of the tumor on use of the leg. Examination showed a rounded swelling about 10 cm. in diameter on the mesio-anterior surface of the left thigh in the lower third. This swelling represented an ill defined movable mass lying under the muscles. Contraction of the rectus femoris, vastus internus and sartorius caused the tumor to disappear. When the extensors were relaxed, the outer border of the tumor became definite and could be made to slip between the fingers and the anterior surface of the femur. Roentgen-ray examination showed no bone change, but the displacement of the muscles was clearly shown. The tumor was removed by separating the fibres of the vastus internus muscle. It lay directly over the femur, and shelled out easily. Examination of the specimen resulted in a diagnosis of pure lipoma, perfectly encapsulated.

THE ULTRAVIOLET RAYS OF THE SUN *

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The essential importance of ultraviolet rays in medicine has just begun to be appreciated. The action of these rays, as distinct from the visible radiations of the sun, has been known for many years, but physiologists have only recently become fully alive to their significance in relation to the normal and pathologic conditions of man. This is all the more surprising in view of the fact that plant physiologists have laid great stress on the rôle of the invisible or "chemical" rays of the sun in the biologic processes of the vegetable world. Some twenty years ago, the physiologist Hertel carried out striking experiments in this field, which demonstrated the marked abiotic power of ultraviolet rays—their ability to destroy bacteria within a period of sixty seconds. About the same time, Finsen showed that the improvement or cure of lupus could be brought about by means of irradiations from the carbon arc lamp, and that this remarkable effect was due to the ultraviolet rather than to the visible radiations emitted from this source. Rollier's excellent results in cases of bone and glandular tuberculosis by exposing the body to the sun have likewise been attributed largely to the ultraviolet rays. However, these various experiences failed to focus the attention of biologists on this aspect of physiology. It was not until it could be shown objectively in man and in animals, by means of the roentgen ray and by chemical analyses of the blood, that a nutritional disturbance—rickets—came about as the result of a lack of the ultraviolet solar rays, and could in turn regularly be prevented or cured by these irradiations, that their importance in physiologic and pathologic processes was fully appreciated.

These rays constitute less than 1 per cent. of the total solar radiations, and it is therefore all the more remarkable that they should prove to be essential to the well-being of man. The young, rapidly growing infant thrives better when deprived of the visible rays than when deprived of the ultraviolet rays of the sun. It is an illustration in another field of what we have recently become sensible of in regard to nutrition—the lack of relationship, one may almost say the inverse relationship, between abundance of supply and the indispensability of food constituents. The vitamins furnish a striking example of this principle. The law of the vital importance of the minimum applies to the radiations of the sun—those rays which are furnished in smallest amount and in least intensity are nevertheless indispensable.

What is known regarding the action of these short radiations may be summed up in a few words. It has been repeatedly shown that they possess exceptionally little power of penetration; that the dust or the moisture of the atmosphere suffices to absorb the shorter ultraviolet rays and prevent them from reaching the surface of the earth; that mist, fog and smoke inter-

* Read before the American Association for the Advancement of Science, Washington, D. C., Dec. 29, 1924.

cept their progress to a greater or less degree. This is true even of the tenuous skin that surrounds the hen's egg. Ordinary window glass filters out all but the longer and less potent of these rays, allowing the passage only of denatured sunlight, which still retains all the semblance of the beneficent radiance of the sun.

Experiments on the physiologic action of ultraviolet rays have been numerous and varied. They have, however, yielded very few definite results, and it is still impossible to state what action these rays exert on physiologic processes. It has been fully established that the formation of pigment in the skin is due to the ultraviolet part of the spectrum, according to Hausser and Vahle,[1] especially to those ranging between 302 and 297 millimicrons in length. It has also been shown by Clark [2] that the invisible rays lead to an increase of the lymphocytes in the blood, an observation that is of interest in connection with their curative action in infections of the lymph glands. Recently, Grant and Gates [3] have reported that when rabbits are exposed to the ultraviolet rays of the mercury vapor lamp their parathyroid glands regularly hypertrophy—a reaction that calls to mind the intimate association of the parathyroid glands to tetany and, in turn, the remarkable seasonal incidence of tetany and its well known response to ultraviolet therapy.

The relationship of rickets to the ultraviolet rays has already been referred to. Indeed, the most reliable index of the activity of these rays on the animal organism is the biologic response of rickets. The reaction of this disorder affords a valuable criterion for the study of the physiologic action of these rays; and the utilization of this procedure, both in man and in animals, during the last five years, has been our main source of knowledge in regard to this important aspect of physiology and pathology. Rickets is characterized by a disturbance in the mineral metabolism, which is manifested by an alteration in the structure of the bones and a diminution of the inorganic phosphorus or of the calcium of the blood. Both of these abnormal states are rectified when the infant or animal is exposed to the sunlight or to the ultraviolet radiations from an artificial source. How this remarkable action is brought about remains to be determined, and constitutes one of the fundamental questions in the biology of the cell. So widespread is this action of the sun's rays that there is a seasonal tide in the percentage of phosphorus in the blood of infants in the temperate zone—an ebb and flow corresponding to winter and summer. These changes constitute the action of sunlight in relation to rickets. There is likewise an indirect action, as has recently been brought out by my observations [4] as well as by those of Steenbock [5]—a power in ultraviolet radiations to produce an antirachitic factor in plants, in vegetable oils and leafy vegetables endowing them with the potency to prevent rachitic changes in the bones.

Strictly speaking, the broad statement that ultraviolet radiations prevent or cure rickets is incorrect. As is well known, the solar spectrum has been so divided that all rays longer than 400 millimicrons, or 4,000 Angström units, constitute its visible portion, whereas waves that are shorter comprise the ultraviolet, or invisible, radiations. I have shown elsewhere that rays longer than about 313 or 302 millimicrons—the dividing line has not yet been accurately determined—have no effect in rickets;[6] so that when we attribute therapeutic potency to the ultraviolet rays of the sun, the implication is that we are referring only to the small band of radiations that extends from about 313 (302) millimicrons to 297 millimicrons, which is the lower limit of the solar spectrum. It is possible that there is some virtue in the solar spectrum considered as a whole, and that the power of the specific ultraviolet radiations may be intensified by the reciprocal action of some of the longer waves. This suggestion has been made repeatedly, but does not rest on a scientific foundation. On the other hand, I have shown that the visible waves may exert a counteracting force on the action of the ultraviolet rays, so that when visible and invisible radiations impinge at the same time on the skin, the power of the ultraviolet rays is somewhat lessened. This counteracting or inhibiting action does not, however, seem to be of great magnitude.

In considering the ultraviolet rays of the sun, we must constantly bear in mind that there are marked diurnal and seasonal variations in this portion of the spectrum. Charts 1 and 2, based on Dorno's data, illustrate these features. The former shows that the ultraviolet rays are weak in the early morning and evening and of greatest intensity between the hours of 10 a. m. and 1 p. m. It may be added that there is a marked and important difference in the quality of sunlight, that radiations about 20 millimicrons shorter are furnished as the sun climbs from 10 degrees to 60 degrees. These diurnal variations vary at different times of the year. But the seasonal fluctuations are still more striking. In Chart 2, I have plotted the amount of ultraviolet solar radiations for the four seasons of the year. Not all the ultraviolet rays have been recorded, but only those shorter than about 313 millimicrons in length—in other words, those which may exert an effect in the prevention of rickets. It is evident from this chart that the amount of radiation within what may be termed "the antirachitic region of the solar spectrum" is very small during the winter months; in fact, it is so feeble under prevailing conditions that its protective power is minimal at this season of the year, especially since infants are exposed to only a slight degree during our severe winter season. If we compute the intensity on the basis of rays 302 millimicrons rather than 313 millimicrons in length, the amount of effective radiation in winter is still further reduced.

Since the importance of ultraviolet light in relation to rickets has begun to be appreciated, it has been taken for granted that the variations in the degree and frequency of this disorder in different parts of the world can be accounted for by the amount of sunshine that the various areas enjoy. For example, the explanation of the fact that rickets prevails throughout the United States, whereas it is practically nonexistent in the West Indies, is ascribed to the greater amount of sunshine in the latter region. This deduction is important from an etiologic and therapeutic point of view, and must be subjected to a careful analysis. As a preliminary, let us consider and compare the actual number of hours of sunshine yearly in some of the largest cities of the world. I have made a graph of these

1. Hausser, K. W., and Vahle, W.: Strahlentherapie **12**: 41, 1921.
2. Clark, J. H.: The Physiological Action of Light, Physiol. Rev. **2**: 277 (April) 1922.
3. Grant, J. H., and Gates, F. L.: J. Gen. Physiol. **6**: 635 (July) 1924.
4. Hess, A. F.: Experiments on the Action of Light in Relation to Rickets, Proc. Am. Pediat. Soc., June 7, 1924; abstr., Am. J. Dis. Child. **28**: 517 (Aug.) 1924; J. Biol. Chem. **62**: 301, 1924.
5. Steenbock, H., and Nelson, M. T.: J. Biol. Chem. **62**: 209 (Nov.) 1924.
6. Hess, A. F., and Weinstock, Mildred: Study of Light Waves in Their Relation to Rickets, J. A. M. A. **80**: 687 (March 10) 1923.

data, kindly furnished by the United States Weather Bureau, for New York, Berlin, Paris, Stockholm and Greenwich, representing London (Chart 3). It will be noted that New York has by far the greatest number of hours of actual sunshine, and furthermore that this is true for every month of the year. Greenwich, or London, has the smallest total number of hours. When we investigate further, we find that London has approximately the same number of hours of sunshine during the summer months of June, July and August as has New York during the months of February and March. Now it has been brought out by numerous investigations in New York, London, Vienna and elsewhere that these two winter months are characterized by the greatest development of rickets. It has likewise been demonstrated that during the summer months, rickets, even in London, undergoes definite healing. In other words, a similar number of hours of actual sunshine leads, on the one hand, to the development of rickets in New York in the winter and to a cure of rickets in London in the summer. It is evident that the incidence of rickets and its seasonal variation cannot depend on the number of hours of actual sunshine.

The next explanation that suggests itself is that the deciding factor, instead of being the yearly amount of sunshine, is rather the amount of sunshine during the winter months, the months associated with the occurrence of rickets. With this explanation in mind, I have prepared a chart of the amount of actual sunshine in these five large cities for the months of November to March, inclusive (Chart 4). It will be seen that the distinction between New York and London becomes still more pronounced; that whereas New York has approximately twice as many hours of sunshine as London throughout the year, it has more than four times as much sunshine during these five winter months, and more than twice as much as Paris. Now, although rickets may be of somewhat greater incidence and severity in London and Stockholm than in New York, the ratio is not as 4 to 1, as these figures would indicate. Evidently a factor is involved quite apart from the amount of actual sunshine, either throughout the year or during the five winter months.

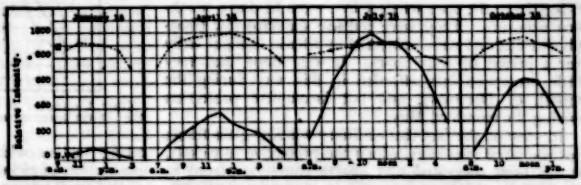


Chart 1.—Seasonal and diurnal variations in the ultraviolet radiation of the sun (after Dorno).

SUNSHINE IN TEMPERATE ZONE COMPARED WITH AMOUNT IN TROPICS AND WEST INDIES

It seemed as if a comparison of the amount of sunshine in places where rickets is prevalent with that in areas where rickets is nonexistent might shed light on this question. With this in mind, I obtained from the United States Weather Bureau data of the yearly and monthly sunshine in places in the Canal Zone and West Indies. The data are portrayed in Charts 4 and 5. It may be noted, in the first place, that the West Indian and tropical cities, as Ancon and Colon, in the Panama Canal Zone, have less sunshine yearly than has New York, and that San Juan, in Porto Rico, has but very little more (Chart 5). I am led to conclude once more that the determining factor in regard to the development of rickets cannot be a difference in the total amount of sunshine.

The crux of the question might be the uniformity of distribution of sunlight throughout the year, rather than the total number of hours or its intensity during certain portions of the year. Possibly in this way the absence of rickets throughout the West Indies might be explained. On analyzing the seasonal distribution of sunshine in this region it is found that, owing to the rainy season of the summer, there is a prolonged period when the amount of sunshine is less in many West Indian localities than in New York during the winter months. Chart 4, showing the amount of actual sunshine during the five months when it is at its lowest ebb in the tropics and West Indies, demonstrates that there is a season in Ancon and Colon when the hours of sunshine are fewer than in the corresponding months in the large cities of the United States and Europe. The occurrence of rickets in New York, London and other large cities, and its absence in the West Indies, cannot be ascribed therefore to a more equable distribution of sunlight throughout the year in the latter area.

It has been shown by Dorno[7] that in Davos, Switzerland, the sun's radiations are of a much shorter wave length in summer than in winter; in December, the shortest radiations are somewhat more than 308 millimicrons in length, whereas, in June they reach 296 millimicrons. Since New York is in about the same latitude as Davos, there will be fully as great a difference in the quality of the sunlight between summer and winter. The variation will be even greater, since the atmospheric absorption, as well as its annual variation, increases with the decrease of altitude; for example, the extent of deviation was found to be more than four times as great in Kolberg at the level of the Baltic as at Davos in the Alps.

This difference in the quality of sunlight between summer and winter is due principally to the decreased zenith distance of the sun in summer. At places in the tropics, the annual variation in the quality of sunlight will be comparatively small, as in these areas the variation in the sun's zenith distance has a much smaller annual fluctuation. This explains why the quality of sunlight, from the standpoint of rickets, is superior in the West Indies to that in the United States, and why it has the power to prevent the occurrence of this disorder in spite of the fact that there is no significant difference between these areas in the annual amount of sunlight or in its distribution. The dominant factor in relation to the activity of solar ultraviolet rays is not quantity but quality.

MEANS OF COMBATING RICKETS

With these considerations in mind, let us consider the question whether we can hope to eradicate rickets by means of a more extensive use of sunlight. No doubt, much can be accomplished by this means. Infants can

7. Dorno, C.: Klimatologie im Dienste der Medizin, Brunswick, Vieweg & Son, 1920.

be exposed to the sun during the late fall and milder days of midwinter to a greater extent than is the custom. There is, however, a climatic obstacle to carrying out this procedure, a natural limitation which is exaggerated by the instinctive fear of mothers and nurses to exposing babies to the cold and the wind. For the last few years, I have been attempting to prevent and to cure rickets during the winter by means of heliotherapy. The infants have been exposed to the sun for as long a period and to as great a degree as was feasible in this climate. The results have not been all that might be desired. Although some benefit was brought about by this treatment, I found that it cannot be relied on to prevent or to cure rickets. There are so many days in winter when there is little or no sunshine or when the sun is overcast at midday—the period on which we depend for the effective radiations—that the total number of hours of exposure is necessarily restricted.[8]

Although diffuse sunlight contains a considerable amount of ultraviolet radiations, it is inadequate to protect against rickets, and we must rely, at least in the winter time, on rays that impinge directly on the body. Animal experiments carried out some time ago to elucidate this point served to corroborate my clinical experience. Groups of rats were placed at a distance of 6 feet from the open window in a room having a northern exposure. They were fed the standard low phosphorus diet and were subjected to diffuse sunlight daily for a period of four hours. It was found that very little protection was afforded in this way during the month of December, and but incomplete protection during the month of May.

In view of the fact that ordinary window glass filters out the ultraviolet rays, which are protective in rickets, it has been suggested that quartz panes be placed in nurseries and children's wards. There can be no doubt that quartz allows the passage of the short radiations, which are specific. I have tested a quartz pane, which was kindly furnished by the General Electric Company, and found that rats which were exposed in September for a period of one hour daily to the rays transmitted by this pane did not develop rickets, in spite of the fact that they were placed on a rickets-producing ration. The question arises, however, whether sufficient solar irradiation can be provided in this way to protect infants in winter. In the first place, it must be borne in mind that the magnitude of the antirachitic ultraviolet radiations is very limited at this period of the year, and that they are present for only a few hours of the day, even when the weather is clear and propitious. Furthermore, their intensity, initially weak, is still further diminished by reflection from the surface of the quartz pane. The rôle of this device in solving the rickets problem remains to be determined. It is evident, however, that there are numerous compli-

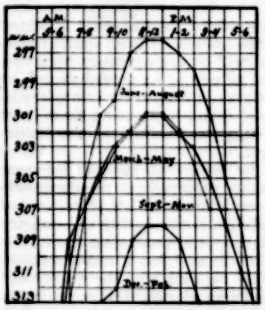


Chart 2.—Seasonal and diurnal variations in "the antirachitic region of the sun's spectrum."

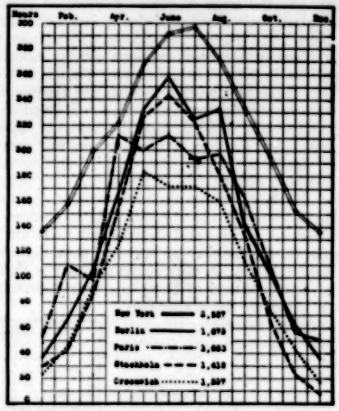


Chart 3.—Amount of actual sunshine (yearly average) in five large cities in the temperate zone.

cating factors which render it doubtful whether the eradication of rickets can be brought about in this way.

As is well known, ultraviolet radiations from artificial sources are being employed more and more in rickets. The chief sources of these rays are the mercury vapor and the carbon arc lamps, both of which emit rays shorter than those of the sun, the radiations of the former extending below the level of 200 millimicrons. Both of these agents are remarkably effective either for protection against or for the cure of rickets, and may be regarded as furnishing a specific form of therapy. We must not forget, however, that solar radiations shorter than about 295 millimicrons do not reach the surface of the earth, and that in the course of evolution man has therefore not become adjusted to rays of a wave length shorter than this. It is quite true that there is no evidence that radiations of less than 295 millimicrons exert a harmful effect on the tissues or cells of the body; as in the case of so many biologic phenomena with which we are confronted, it is difficult to gage this reaction. However, until we have reliable information on this point, it would seem to be advisable to interpose an appropriate filter so as to intercept rays shorter than those which are furnished by the sun.

Our other specific for rickets is cod liver oil or potent extracts of this oil. If all infants were given cod liver oil in appropriate dosage when they reached the age of 1 month, and this treatment continued throughout the year, rickets would be eradicated instead of being the most common nutritional disorder of infants in the temperate zone. Although cod liver oil should be regarded as a specific, like all specifics, it fails at times. It is not as potent an antirachitic as ultraviolet radiations. This inferiority becomes evident in the treatment of premature infants, which frequently develop rickets

8. The question has been raised as to whether the beneficent effect of ultraviolet irradiation, natural as well as artificial, does not persist for a sufficiently long period to render ultraviolet therapy given in the summer or fall of protective value throughout the winter—in other words, whether we can rely on "stored sunlight." Although the benefit from irradiation does endure for some weeks after treatment is discontinued, I have found that unless specific treatment is continued, rickets will develop in the course of the winter.

in spite of having received cod liver oil almost from the time of birth.

The practical application of recent experimental studies may prove of definite value in lessening the incidence of rickets. I have in mind the investigations to which reference has been made, which show that foods which are primarily inactive can be rendered antirachitic by means of irradiation with ultraviolet light. Vegetable oils and leafy vegetables were cited in this connection. More recent experiments have demonstrated that dried milk as well as refined flour can be activated readily by this means. The practicability of this method will depend largely on whether technical difficulties can be overcome. If it is found that milk, the universal food of the artificially fed infant, can be treated so that it furnishes a sufficient amount of the antirachitic factor, it would seem that this procedure will be of decided therapeutic value.

It is quite possible that something can be accomplished in enhancing the nutritional value of milk by directing attention to the activity of the sun's rays on the cow and on the fodder which it consumes. The recent report of Luce [9] is most suggestive in this connection. As a result of a series of experiments with milk, she concludes that "the antirachitic value depends on the diet of the cow and possibly also on the degree of illumination to which she is exposed." At present, many milch cows are maintained under most unnatural conditions throughout the year. This is true of cows that furnish the very best grade of milk. They receive no fresh fodder—merely ensilage—are kept in the stalls throughout almost the entire day, and are allowed little or no exercise. Under such hygienic conditions, the cow cannot produce milk of the highest nutritional value. A regimen of this kind is certainly unsuited for the nursing mother.

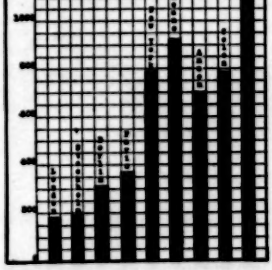


Chart 4.—Amount of actual sunshine during the five winter months in the cities of the United States and Europe, and for five corresponding months in some cities of the tropics and West Indies.

The problem of the activity of the ultraviolet solar rays is one that is fundamental and vital. Its scope is all embracing; it touches every field of biology. The subject has assumed a new and wider significance, and should interest those who are actively concerned with questions of human physiology and pathology, those whose domain is the investigation of the nutrition of animals, as well as those who are endeavoring to add to our knowledge of the physiology of plants.

CONCLUSIONS

Rickets affords an excellent criterion for the investigation of the biologic activity of the sun's rays, for we know within narrow limits the band of ultraviolet radiations that is effective in preventing or curing this disorder.

A comparison of the yearly amount of actual sunshine in cities in the temperate zone demonstrates that there is no close parallelism between the incidence of rickets and annual sunshine. It shows, furthermore, that the occurrence of rickets does not depend on an equable distribution of sunshine throughout the year. In the Panama Canal Zone, where rickets is practically nonexistent, not only is the yearly sunshine less than in

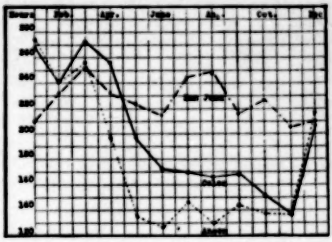


Chart 5.—Amount of actual sunshine yearly in some cities of the tropics and West Indies: Ancon, broken line, 2,154; Colon, solid line, 2,413; San Juan, line of dots and dashes, 2,720.

New York but it is less evenly distributed; there are fewer hours of sunshine during the rainy season in Colon or Ancon than during the corresponding winter period in New York. The determining factor is the quality, not the quantity, of the sun's rays—the amount and intensity of those short ultraviolet radiations which alone are of value in preventing rickets.

The results of heliotherapy during the winter months have been disappointing, owing to the fact that the "antirachitic region of the solar spectrum" is very limited at this season and that the infants cannot be exposed directly to the rays on account of the severity of the climate. It would seem that the amount of the effective solar radiations is so small in the winter that even if we substitute quartz panes for ordinary window glass, it will be insufficient to afford protection and eradicate rickets. The most promising prophylactic measures are ultraviolet light from artificial sources or the use of cod liver oil, or potent extracts of this oil. Possibly foods that have been activated by irradiation will prove to be of value in this connection; for example, dried milk that has been rendered antirachitic by this means.

Something also may be accomplished in this direction by improving the hygienic conditions of the milch cows. At present many of those furnishing the best grade of milk are kept throughout the year in sunless barns, are allowed a very limited amount of exercise, and receive little or no fresh green fodder.

16 West Eighty-Sixth Street.

9. Luce, E. C.: Biochem. J. 18:716, 1924.

Progress in Therapeutics.—Information as to the processes and causation of disease is steadily accumulating; the art of diagnosis is being constantly facilitated by the introduction of scientific methods of precision, brilliant results are being achieved in the field of preventive medicine, and the pharmacologist is ever adding to our store of knowledge as to the mode of action of the remedies we employ. While this is so it will be generally admitted that the progress of practical therapeutics has been in no way commensurate with the advance in our knowledge of the etiology, pathology and diagnosis of disease.—Bramwell, Edwin: *Lancet* 1:265 (Feb. 7) 1925.

Clinical Notes, Suggestions, and New Instruments

DERMOID CYST OF THE PLEURAL CAVITY

F. J. Schleier, M.D., Omaha

This case is reported because I am under the impression that it is rather an unusual one. Although my search has not been very thorough, I have been unable to find in the textbooks or literature available to me anything concerning a similar case. Dermoids, as we know, are rather common; but the peculiar location is the striking factor in this particular case.

The case first came under my observation during the latter part of May, 1922, and the history was taken, July 18, 1922, at the time of the patient's admission to St. Joseph's Hospital.

History.—K., a white woman, aged 23, who was born in Iowa, and who weighed 132 pounds (60 kg.), complained of pain on the right side along the lower costal border. She was well developed and well nourished. Her family history was essentially negative. The father, mother, three brothers and three sisters were all alive and well. She had had the usual childhood diseases, but had always been strong and well. Her personal history was negative except for chronic constipation and an occasional nonproductive cough.

Present Illness.—About one and one-half years before I saw her, the patient had a severe attack of influenza, accompanied by a right-sided pleurisy. Pain and all the symptoms of acute illness cleared up in the course of ten days or two weeks and the patient was apparently in normal health, except for the pleuritic pain and some gastric distress, which she described as attacks of indigestion. The pains in the costal region and the right upper part of the abdomen were not constant but occurred at intervals. The pain started at about the tenth rib in the midscapular line and radiated upward and forward. It was quite severe and lancinating in character. It had not become progressively worse. It was not aggravated by deep breathing. The patient had some cough and dyspnea, but no constitutional symptoms. She had felt strong and well and had gained 5 or 6 pounds (2.5 kg.) in the past two or three months.

Physical Examination.—The pupils were regular and reacted to light and in accommodation; the heart was normal; the chest showed no râles; there was an area of dulness and absence of breath sounds in the right lung field extending up to the level of the fifth rib; and bulging of the right chest wall. Otherwise, the physical findings were normal. A small aspirating needle introduced at the seventh interspace revealed nothing. The patient was referred to Dr. James Kelly for a roentgen-ray examination of the right chest. He found the entire lower half of the right lung field obliterated by a dense mass, looking like fluid or pus. The parenchyma of the lung above the mass was clear. The left lung was clear. The mass reached to the lower border of the fourth rib in the midaxillary line. The heart was displaced to the left.

Fig. 1.—Result of examination, May 31, 1922: Obliteration of entire lower half of right lung field by a dense mass looking like fluid or pus; parenchyma of lung above mass, clear; left lung, clear; mass reached to lower border of fourth rib in midaxillary line; heart displaced to the left.

A tentative diagnosis of an atypical empyema was made. A second aspiration was done, July 19, with a much larger needle. A small quantity of very thick, greenish-yellow material was obtained which had the macroscopic appearance of pus. Under ether anesthesia, a resection was done of about 2 inches of the seventh and eighth ribs, slightly posterior to the midaxillary line. When the pleura was opened, a second distinct layer was encountered, and when this layer was opened, a large quantity of caseous material escaped from the cavity. This material was of a very foul odor and contained a considerable quantity of hair. The sac was of such an extent that it was deemed inadvisable to attempt its removal. The contents were evacuated as well as possible. About 4 quarts of this material was removed, which weighed approximately 18 pounds (8.2 kg.). The cavity was then packed with gauze and the edge of the sac sutured to the fascia. The wound was left wide open. After several days, the gauze was removed and a large rubber tube was introduced. The cavity was irrigated twice daily with physiologic sodium chlorid solution. The patient had a rather stormy convalescence, but was discharged from the hospital, August 29. The drainage tube was left in place and there was considerable discharge from the cavity.

Fig. 2.—Condition, July 3, 1923: Cyst cavity still present, measuring about 7.3 cm. in diameter; fluid occupied lower three fourths of cavity, with air in upper fourth.

The patient at this time refused any further surgical intervention. The discharge gradually lessened and the external opening became smaller. About one year from the date of operation, the patient being in fairly good health and the external opening small, it was impossible to continue the use of the drainage tube, which was removed. The discharge, however, continued to drain through a small sinus, which would occasionally close, and the patient would have attacks of acute illness, pain and fever, when the sinus would reopen and a large quantity of pus escape from the cavity. The patient would then improve, until considerable quantity of pus accumulated in the cavity.

During this time, and up to the first part of July, 1924, the patient had been more or less under her own treatment, persistently refusing to allow anything to be done to relieve her condition. July 13, 1924, she came under my observation again and presented the picture of a very sick patient. Her weight was 105 pounds (47.6 kg.). There was a very small sinus at the site of the previous drainage, from which exuded a very foul smelling, mucopurulent discharge. She reentered the hospital and a roentgen-ray examination at that time showed a cyst cavity still present, 7.2 cm. in diameter. The fluid occupied the lower three fourths of the cavity with air in the upper fourth. The cavity was the same size as at the last examination.

July 16, under local anesthesia, I made an incision, removing the old scar, and resected about 2 inches of the eighth and

ninth rib; I evacuated about 6 ounces of pus and caseous material and inserted a five-eighths inch rubber drainage tube into the cavity. Apparently the greater part of the cyst wall had been obliterated, and the cavity was lined with granulation tissue. An irregular area approximately the size of a half dollar on the anterior surface of the cavity, which was apparently part of the dermoid sac, remained undestroyed. This was freely cauterized with 20 per cent. silver nitrate solution. The cavity was irrigated twice daily with physiologic sodium chlorid solution.

The patient's general condition improved rapidly, and she was discharged from the hospital, July 26. The cavity at that time had a capacity of approximately 3 ounces (90 c.c.). The dermoid sac was apparently completely destroyed, and the discharge from the cavity was very slight. The patient has been instructed to use blow-bottles in the hopes of collapsing the cavity, and, in the event this fails, it is my intention to do a thoracotomy with the hope of completely obliterating the cavity. This operation, however, will be delayed until the patient is in better physical condition, as she is at this time constantly gaining weight and improving in every way. The temperature has remained normal since the last operation.

1140 First National Bank Building.

A POSITION OF MAXIMUM COMFORT IN CASES OF RECTAL DISEASE *

J. F. MONTAGUE, M.D., NEW YORK

Whenever it becomes necessary to confine a patient suffering from rectal disease to bed, it will be of comfort to the patient and of value to the physician to know that there *is* a posture which will afford maximum ease.

The patient, lying in bed in the ordinary position with a pillow at the head, is theoretically lying level, yet he actually lies, because of the sagging of the bed, in such a manner that the anal and rectal region are considerably lower than the rest of the body. It can be readily seen that this dependent position by gravity alone does much to increase the local congestion already in progress. This induces an extensive edema of the perianal skin and anal canal, which adds considerably to the distress of the patient. Furthermore, in the ordinary prone position, the distribution of the weight of the viscera of the pelvis and abdomen is distributed over the pelvic floor, thereby exerting pressure on the acutely inflamed part.

Fig. 1.—Position with patient flat on the back.

The following simple arrangement entirely eliminates these undesirable features: The head pillow of the patient is removed; a pillow is inserted under the hips, and two pillows are inserted under the legs. With the various parts of the body distributed at these levels, the patient may lie flat on the back or on the abdomen, or he may turn gently from the back to either side. A rubber air ring semi-inflated may be placed under the sacrum or hips for additional comfort. The rectal area is no longer in a position to be congested by gravity, nor do the pelvic viscera exert pressure on the tender part. Edema will not occur. Furthermore, flatus escapes with ease. The total result, with all these factors of local disturbance eliminated, is comfort for the patient. Aside from this, the wound heals more rapidly, and experience indicates that convalescence is shortened. Pending curative measures in nonoperative cases of badly congested hemorrhoids, this simple expedient affords great relief.

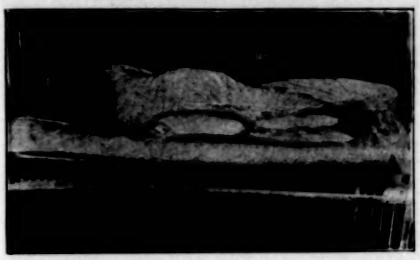


Fig. 2.—Position with patient lying on side.

In persons with large, pendulous abdomens that render the use of pillows in this fashion inconvenient, the same result may be obtained by the elevation of the foot of the bed with wooden block, to such an extent that the hips are at an appreciably higher level than the rest of the trunk.

540 Park Avenue.

* From the Rectal Clinic, University and Bellevue Hospital Medical College.

A MISLEADING NASOPHARYNGEAL FIBROMATOID

O. JASON DIXON, M.D., KANSAS CITY, MO.

History.—Mrs. S. A., aged 30, came to my clinic, Sept. 13, 1923, with the complaint of a lump in the back of her throat. She first noticed that she was unable to breathe through her nose following an attack of influenza in 1921. She was bothered with the change of her voice caused by the nasal obstruction, and consulted her family physician at that time, who told her that she had nasal polypi, which should be removed.

She worried along with this condition until she became alarmed on account of difficulty in breathing while asleep or lying on her back. She had recently been bothered with night terrors, and had a feeling that she was choking to death. There had been no bleeding or discharge from the nose or throat, and, aside from a constant headache radiating down the back of each ear and pain in her eyes, she had suffered no discomfort except that of suffocation. She had had several attacks of tonsillitis, but no previous nasal disturbance, and had had no operations. She had been married five years, had never been pregnant, and said that she had "female trouble."

Physical Examination.—The left arm was underdeveloped and spastic, apparently from an old poliomyelitis. The patient was mentally below par, had an anxious expression, complained of shortness of breath, and asked that the window be raised so that she could get more air. Her color was good. She spoke with a "mouth-full-of-mush" tone. There was no cervical or submaxillary adenitis. The tonsils were small, submerged, cryptic and covered by an inflamed strip of anterior pillar. The teeth were normal. The tongue protruded normally.

Hanging down back of the soft palate, slightly to the left, was a pear shaped mass with the apex down, completely filling the posterior pharynx. The surface of the mass was red and granular, and rubbed firmly against the soft palate but was not attached to it. There was no exudate, and it was firm to the touch.

When aspiration was attempted, no fluid was withdrawn. The mass projected upward and forward into each nasal chamber, extending on the left side almost to the external

Fig. 1.—The tumor as it appeared in the patient's throat just prior to removal; the punched out area appeared late.

Fig. 2.—Tumor, showing point of attachment and partial bifurcation.

naris. On digital examination, the tumor was only slightly movable to the right side, and I assumed that the point of attachment was just to the left of the midline.

A diagnosis of pharyngeal fibroma was made, and removal was recommended. The patient was reluctant to have this done in the face of the operative risk involved, which was explained to her and her husband.

While awaiting decision, I noticed that a small area near the tip began to break down (Fig. 1). This punched out space was about the size and shape of half a small marble. The surface was red and granular, but when it was rubbed vigorously with the end of a wooden tongue depressor, it did not bleed.

Under a two weeks' period of observation, I noticed that the tumor enlarged downward in the throat, causing more discomfort; the crater-like cavity deepened, but still I was unable to stir up any bleeding about its surface.

In spite of these findings, I was content with the diagnosis of fibroma, which had been confirmed by several consultants. Before coming to me, the patient had been under observation at the General Hospital for a month. However, the behavior of this necrotic area convinced me that I could remove this tumor through the mouth, and control the bleeding without resection of the upper jaw or splitting the palate.

I decided to slip a cold wire snare up behind the soft palate and gradually cut off as much of the tumor as possible. To

Fig. 3.—Section of tumor, showing preponderance of fibrillar tissue.

control the hemorrhage I planned, if necessary, to pack firmly the entire throat and to insert a tracheotomy tube.

To my surprise, as well as that of the interested observers, while the snare was being worked up back of the tumor, the entire mass broke loose from its pedicle attachment and a large, partially bisected polyp was delivered from the throat (Fig. 2).

There was about 5 c.c. of blood lost. The patient rather discounted my serious prognosis, and the following day left the hospital breathing easily through her nose. There has been no disturbance since.

COMMENT

The family physician, who first saw the patient, was the only doctor who made the diagnosis of polyp. This was later confirmed by Dr. H. R. Wahl, who made a microscopic section of the tumor (Fig. 3).

As so frequently happens, the unusual immediately calls forth voluminous consultation with its resultant rare diagnosis. Hertzler, who saw the case early, stated that if it was a fibroma, it was the first that he had ever seen in a woman. The literature confirms the rarity of this lesion in women. The description of fibromas by McFarland is quite

instructive, and helps to explain the error of diagnosis in this case: "A fibroma is a tumor composed of fully formed fibrillar connective tissue. It is treated in most textbooks as though it was one of the most common, most simple, and most easily understood of the tumors. All this is wrong. It is not common, it is not simple, and it is not easy either to recognize or to understand. It becomes confused with inflammatory new formations on the one hand, and with sarcoma on the other. It is by no means certain that the different growths called by the name have much in common."

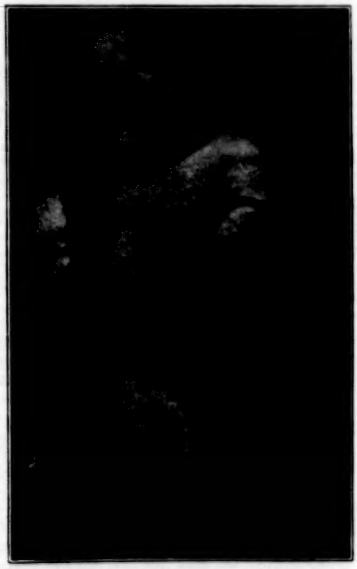
In his tabulation showing the relationship of fibromatoids with fibromas, he classifies nasal polypi as submucous polypi, circumscribed but not encapsulated, connective tissue growths of tumor-like appearance.

917 Rialto Building.

ANENCEPHALIC MONSTER

L. H. BLANCHARD, M.D., PITTSFIELD, ME.

A woman, aged 21, a primipara, at the beginning of the seventh month of pregnancy, was found to have placenta praevia. She complained of backache for two days. The os



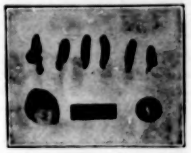
Anencephalic monster delivered at beginning of seventh month of pregnancy.

was dilated to about 25 mm. I took her to the hospital, and, soon after arrival, she had a severe hemorrhage. I immediately separated the placenta and brought the fetus down, which controlled the bleeding. Then I discovered it was a breech presentation. Pains brought the presenting part to the vulva, and first one foot appeared and then the other. When the fetus was half delivered it was alive. It was 5½ inches (14 cm.) long and weighed 1½ pounds (0.7 kg.). There were no legs or thighs, the feet coming direct from the hips. Both arms were normal in length, ending in one finger, that having a nail. The eyes protruded about three-fourths inch (20 mm.), with the pupil forming the whole anterior part of the eyeball. The back of the head was flat and raw.

LARVAE OF THE CHERRY FRUIT FLY, RHAGOLETIS CINGULATA, AS A PSEUDOPARASITE

M. W. LYON, JR., M.D., SOUTH BEND, IND.

The case of pseudoparasitism here recorded occurred in a boy, aged 22 months. The child is normal in every way. His mother is intelligent, very attentive to him, and carefully supervises his eating; at least, that is her intention. About Aug. 1, 1924, she noticed worms in the child's stool and consulted Dr. Milo K. Miller of this city. The rather scant stool in which the worms were found was submitted to me for examination. I removed from it six fly larvae, one cherry pip, and a small red bead. Three of the larvae were well preserved, but appeared dead. The other three showed the effects of their passage through the human alimentary canal. The larvae were submitted to the Bureau of Entomology of the United States Department of Agriculture for identification. Mr. F. C. Bishop of that bureau reported that they had been identified by Mr. C. T. Green of the National Museum as those of the cherry fruit fly, *Rhagoletis cingulata.* The mother thinks that cherries containing larvae were eaten during a brief visit of the child to a neighbor. Neither the larvae, the cherry pip, nor the bead caused any symptoms.



Upper row, larvae of the cherry fruit fly, Rhagoletis cingulata; lower row, cherry pip and bead removed from feces; between the cherry pip and the bead is a piece of paper 1 cm. in length.

122 North Lafayette Boulevard.

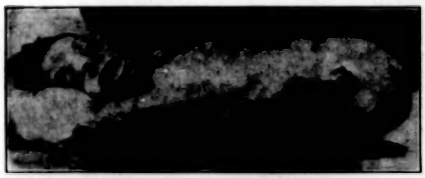
THE OCCURRENCE OF MONGOLISM IN ETHIOPIANS*

ADRIEN BLEYER, M.D., ST. LOUIS

The first description to attract attention to mongolism appears to have been that of Langdon Down[1] in England, published in 1866. Since that time the cases of mongolism reported have belonged, it seems, exclusively to the Caucasian races, a belief that is expressed in a review of the subject by Muir,[2] which appeared some thirty-seven years later. The recent report by Tumpeer[3] in Chicago, however, of the occurrence of mongolian idiocy in a Chinese boy prompted the making of this additional report of its occurrence in the negro.

REPORT OF CASES

CASE 1.—E. R., an American negro girl, aged 5 months, seen at the North Seventh Street Welfare Station, was recognized as a mongolian idiot by the following items which are



Appearance of Patient 2.

taken from the clinic notes: slant eyes with narrowed fissures; flat epicanthic folds; egg face; tiny ears; small, round mouth and nose; markedly redundant folds of neck and elsewhere; spatulate stubbed fingers and general muscular relaxation,

* From the Department of Pediatrics, Washington University School of Medicine and the St. Louis Children's Hospital.

* Read before the St. Louis Pediatric Society, Nov. 21, 1924.

1. Down, Langdon: London Hosp. Rep., 1866, p. 259.
2. Muir: Arch. Pediat. 20: 161 (March) 1903.
3. Tumpeer, Harrison: Mongolian Idiocy in a Chinese Boy, J. A. M. A. 79: 14-16 (July 1) 1922.

with open navel. She was unable to hold her head up. The head circumference was 38 cm., with shortening of the anteroposterior diameter. The weight was 11 pounds, 6 ounces (5 kg.), although the birth weight is said to have been 6½ pounds (3 kg.).

The family history was of interest. The father was 40 and the mother 35; this was the eighth child, two having died. Of the five other children as well as the parents and the patient herself, any possibility of admixture of white blood at any time whatever was staunchly disavowed, which, of course, must be taken for what it is worth.

The baby had been entirely breast fed, and there had been no illnesses to interfere with growth. At 7 months, she had suffered an attack of bronchitis; there were other attacks, and also one of conjunctivitis during the ensuing year. Auxiliary feeding and cod liver oil failed to help; and, doubtless because of these various infections, the baby's weight at 10 months had fallen to 9 pounds, 12 ounces (4.3 kg.). At this time she had a severe diarrhea.

Abundant outward signs of mongolism were now present; there was obvious imbecility of mongoloid type; the head had increased only 2.5 cm. in these five months; there was but one tooth; the tongue, which was constantly between the lips, had begun to take on a rugous character. The cry and accompanying facial expression were characteristic; she was placid, well behaved and mildly interested in her surroundings, and "was never any trouble," to use the mother's words. The disproportionate smallness of the nose to the rest of the face was especially striking in a negro; and this seemed to correspond with other features, the long axis of the ear, for example, being 3 cm., as opposed to 3.6 cm., which was found to be the average of the ears of ten other babies of similar age.

The weight at 1 year was 11 pounds (5 kg.), and at 14 months, 12 pounds (5.4 kg.), when she contracted pneumonia and died. The usual serologic tests and plates of the skull, sella and wrists taken in the pediatric service of Washington University Dispensary were negative.

Case 2.—B. B., an American negro girl, aged 21 months (seen through the courtesy of Dr. McKim Marriott, chief of the St. Louis Children's Hospital), had been unable to hold her head up until she was 10 months old, and had never learned to walk. The weight was 8,100 gm., or about 35 per cent. less than the average for her age. She was the fourth child; the ages of the parents do not appear on the records. Unusual efforts at resuscitation were required at her birth, which probably bears on the diagnosis of congenital defect of the heart, which appears on the hospital notes. The history reveals a great number of colds and bronchitis attacks, which were usually attended by fever, and she was suffering with pneumonia when admitted to the hospital. Features of mongolism were present; the head circumference was 46 cm., with widely open fontanel, narrowed palpebral fissures with definite mongolian slant, and broad flat space between the eyes; the tongue was enlarged, and the teeth were in bad condition. There was an asymmetrical and poorly formed chest and an enlarged abdomen with open navel, which appeared to be part of a marked hypotonia of the muscles and general relaxation of the capsular ligaments, which is shown in the illustration. Curvature of the little finger, as occasionally noted in mongolian idiots, was present. The usual serologic tests were negative.

A third case of mongolism in a colored boy, also seen in the Outpatient Department of Washington University Dispensary, might be added to the foregoing. However, the existence of remote white parentage in him was acknowledged, the purpose of mentioning this case at all being to show that Ethiopian blood is in itself no guarantee against mongolism.

819 University Club Building.

Suggestion in Therapeutics.—The remarkable fact that a remedy when first introduced often proves more effective than it does in the hands of subsequent observers is no doubt in some instances, though not always, to be accounted for by the influence of suggestion.—Bramwell, Edwin: *Lancet* **1**:267 (Feb. 7) 1925.

Special Article

THE ART AND PRACTICE OF MEDICAL WRITING

III. THE SUBJECT AND THE MATERIAL *

GEORGE H. SIMMONS, M.D.
Editor and General Manager Emeritus, American Medical Association
AND
MORRIS FISHBEIN, M.D.
Editor, The Journal of the American Medical Association
CHICAGO

(Continued from page 950)

There is a distinct change in the type of papers appearing in medical journals today as compared with twenty years ago. The therapeutic articles of the past, replete with favorite prescriptions which frequently were proprietary in character, have given way to scientific contributions on therapeutic methods, on pharmacology, on pathology, on etiology, on methods of diagnosis and on prophylaxis. The difference between then and now in this regard can be appreciated only by those who were in practice eighteen or twenty years ago, or by those who will take the trouble to compare the journals of that period with those of today.

Dr. Charles Singer, in his essay on "Greek Biology in Its Relation to the Rise of Modern Biology," has described a complete contribution of the best type in modern scientific literature. "The author begins," says Singer, "by pointing out a gap in knowledge. . . . Having stated his problem, he reviews the efforts made by others to illumine this dark place in knowledge. He points out some of their errors or decides to accept their work and base his own upon it. Perhaps he distrusts their experiments or would like to reinterpret their results. Having summarized their labors, he details his own experiments and observations. But he is not able to tell us all of these. . . . Space will not permit him to tell us how he embarked on many different lines of work and abandoned them as unprofitable or too difficult, nor anything of the months or years spent merely repeating the experience of others. He says no word of how he acquired and improved his experimental skill and technical exerience. He tells merely of those developments of his work that have yielded him results. . . . When by gradual steps he had at last reached, or perhaps with the instinct of genius had more quickly discerned, a profitable direction for his investigations, he reached after a time those conclusions which his final line of work has verified and rendered more exact. It is this final process of verification that he mainly describes in his article, and it is the details of this that occupy the bulk, perhaps nineteen twentieths or more, of all that he has to say. Then, having described these verificatory experiments, he summarizes his conclusions in a short paragraph of a few lines."

TYPES OF ARTICLES

Medical articles may be classified in definite types, including:

1. Case reports.
2. New instruments.

* This is the third of a series of articles. When concluded, these papers, together with additional material, will be published in book form.

3. Clinical notes and suggestions.
4. Résumé of literature.
5. The abstract essay.
6. The report of research.
7. Complete consideration of a single disease.
8. The monograph.
9. Combinations of these groups.

CASE REPORTS

The foundation of clinical medical literature is the case report, a species now becoming, for some unknown reason, almost extinct. One cause, given by the editor of a Swedish medical periodical, is the fact that the scientific level of our profession has risen so much in recent years that a physician hesitates to report an interesting case simply as a case report; he thinks he must make an exhaustive survey of the literature. Instead of a brief, practical report, he submits an unnecessary exhaustive review, which few, if any, care to read. Often a mass of details, including unimportant, irrelevant and negative findings, is presented without regard to clearness of expression. Usually, if the historical review appears to be unnecessary and the case is an interesting one, the author should simply publish his case report and omit the review of the literature. Clinical reports, made with judgment and with the correct appreciation of relative values, are always welcomed by both editor and reader.

TECHNIC OF THE CASE REPORT

A case report should tell its story in clear, straightforward, narrative style. It should not be transcribed *verbatim et literatim* from original records hastily jotted down at the time the various events occurred; the jerky, telegraphic style of the record sheet may result in actual padding. For example:

Patient, A 178493, Giuseppe Roverano. Age 35 years. Color, white. Nationality, Italian. Occupation, laborer. Condition, married. Complaint, inflammatory rheumatism. Entered Brown Hospital, Jan. 15, 1909.

A shorter and more satisfactory description would be:

G. R., aged 35, an Italian laborer, married, entered Brown Hospital, Jan. 15, 1909, complaining of inflammatory rheumatism.

Negative Findings and Unnecessary Material.—The hospital record number has no place in a case report. While this may serve a purpose within the hospital to identify the case for the members of the staff, it means nothing to the reader. Further, it may give rise to a false impression as to the number of cases which have passed through the institution, or which have been observed by the physician.

Unimportant findings or those which have no bearing on the clinical history of the case should be avoided. Negative findings are of value in few instances, and should be cited only when actually necessary. An author who reports a case of compound fracture of the femur need not trouble to say, under "examination," that the lips, throat and ears are normal. On the other hand, if he is reporting a case of arthritis, it may be worth while to say that examination of the heart yielded no findings of importance, because pathologic changes in the heart may be associated with arthritis. "Mrs. J. J., married," is redundant, for the "Mrs." indicates marriage; but "Mrs. J. J., a widow," conveys additional social information that may have some bearing on the case.

The elimination from a case report of all negative material is a valuable exercise from the standpoint not only of good English composition, but also of scientific knowledge. The physician who is well informed will not give all the minutiae of a normal blood count or of a normal differential leukocyte count. He will not provide a perhaps highly entertaining but utterly useless account of the various illnesses suffered by all the members of the patient's family tree, unless these had some bearing on the case. He will not say that the patient had the usual illnesses of childhood; but, if any of these illnesses had a bearing on the condition, he will state what the illness was and about when it occurred. The elimination from the case report of nonessential material will make a clinical picture that will be as striking as a marble bas-relief, in its proper emphasis on various features and in its subduing of background.

Nowhere are negative findings more frequently encountered than in the recapitulation of postmortem records. Sometimes such reports are practically the transcripts of the stenographer's record, dictated as the examination progressed. In most instances, it is sufficient to present only the anatomic diagnosis, complete as to all the pathologic findings, and then to give in detail the particular description of the pathologic changes with which the discussion is concerned.

Confusion of Time.—A common fault in case reports is indefiniteness in sequence of events as to time; it is illustrated in the following chronological skeleton of a case report submitted for publication:

CASE 3.—A. D., Feb. 8, 1912. Hairpin in the bladder and renal infection. Girl, 22 years old, first seen three years ago. Two years ago her kidney was explored. . . . A year ago this patient went to the city hospital. . . . Soon after this I heard of her as a patient with marked polyuria. . . . From the early part of the summer until August she had retention of urine and had to be catheterized. . . . Five weeks ago she allowed a friend . . . to attempt catheterization. . . . I saw her three weeks ago and found the hairpin. . . . I was not then allowed to remove it. . . . On February 3 she told me that the day before she had had pain in the left renal region. . . . Examination next day showed marked cystitis. The pin was removed. . . . Within four days . . . the patient was discharged.

January, 1913. Two weeks after leaving the hospital another pin was found in the bladder.

Tense.—Tenses should be used consistently. If, for the sake of vividness, the present tense is used to report clinical examinations or pathologic findings, it should be maintained throughout the paragraph. The simplest way usually is to use the past tense, at least in the narrative portions of the report.

A frequent error occurs when the author follows a case report with a description of a pathologic specimen or of a section viewed under the microscope. Usually the history of the case is given in the past tense and the pathologic report in the present tense. These should be uniform.

Coined Abbreviations.—In many institutions it is customary to use certain abbreviations on case records; here it is excusable, for it saves space and makes reference easy for those who know what the abbreviations mean. In publication, abbreviations should be avoided. During the Great War, a craze for abbreviation developed, perhaps associated with the large amount of so-called "paper work," the inevitable accompaniment of army life. The general use of such abbreviations, or of original or coined abbreviations, should not be

tolerated. Such phrases as "W. D. & N." for "well developed and nourished," "H. & L. O. K.," signifying "heart and lungs normal," and "L. L. L. N. R." for "left lower lobe no râles" are an abomination. The manuscript editor who is confronted with such hieroglyphics can sympathize readily with the diagnosis "G. O. K." which appeared frequently on many case records in British hospitals during the war, signifying "God only knows." Abbreviations not in dictionaries and in ordinary textbooks are permissible only in tables; then, if not obvious, they should be explained in footnotes.

The Form of the Report.—The simple case report may begin at once with the history and record, or it may be introduced with a brief statement as to why the author considers it desirable to report the case. If the latter method is followed, the author will aid the reader and the manuscript editor by clearly indicating the separation in the following manner:

There is no record of chronic poisoning from potassium nitrate in standard works on toxicology or therapeutics, nor does a fairly extensive search of the literature reveal any report of such poisoning.

REPORT OF CASE

A farmer, aged 57, whose general health had always been excellent, was first seen by me, Feb. 20, 1924. He appeared acutely ill. . . .

Usually it is better to begin with the report of the case, and, if needed, appropriate comments.

In the report of a case of any length, the description may be broken up by side-headings. Paragraphs may be devoted to the patient's history, family history, physical examination, laboratory examination, course, results and, if any, postmortem findings.

In longer manuscripts, in which several or many cases may be briefly reported merely as a matter of record, a single paragraph may be given to each case.

NEW INSTRUMENTS

Ordinarily, it will be sufficient to describe an instrument in as few words as possible, depending largely on the accompanying illustrations of the device or apparatus to carry the story. A photograph of the device usually is better than a free-hand drawing, although such a drawing by a competent artist is more easily reproduced. A diagrammatic line drawing and a photograph of the device in use usually will present it most satisfactorily. The publication of a description of an apparatus that has not been manufactured and actually used is to be condemned.

CLINICAL NOTES AND SUGGESTIONS

In the course of his practice, a physician frequently discovers minor clinical signs and symptoms of importance, short cuts in procedure, small occurrences of bizarre interest, or similar matters of general interest that are worth publishing. They may not merit a thorough working up; rather, they may be covered in letters to the editor or in brief clinical suggestions occupying a paragraph. Such suggestions or practical paragraphs are read by almost every reader as he glances through the pages of his periodical.

RÉSUMÉ OF LITERATURE

One of the most valuable—and sometimes the most useless, depending on how it is done—contributions is the résumé of knowledge on a given subject. If such a résumé is made by one who is familiar with the literature, and who has had sufficient experience to select with judgment and to discard with even more care, the contribution may be an important one. If, however, the work is done by an assistant who has been instructed to get references to the available literature on the subject and to arrange these in chronological or in some other order, it is likely to be a hodge-podge and of wearisome length. It is manifestly impossible to abstract all the literature in the course of a brief article on such subjects as tuberculosis, syphilis or influenza during an epidemic, yet many writers attempt to do so.

THE ESSAY

Manuscripts of the essay type include presidential addresses, forecasts as to the future of medicine, discussions of the economic problems and social status of the physician—a more or less exhaustive discussion of the selected subject in which physicians are interested as citizens and as professional men, rather than as scientists. Such papers are obviously more literary in character than are the usual contributions, and the physician may permit himself a latitude in literary allusion, diction and personal reference not permissible in the ordinary scientific paper. The published addresses of Sir William Osler, Sir Clifford Allbutt, S. Weir Mitchell and Oliver Wendell Holmes present examples of this type.

THE REPORT OF RESEARCH

No better outline of the form to be followed in a report of medical research is available than that by Dr. Charles Singer, described in the quotation at the beginning of this chapter. Emphasis may be placed again, however, on the necessity of rigid elimination of nonessentials. The problem should be stated clearly; the literary references should bear directly on the problem; the protocols of experiments should include only such experiments as were productive in yielding actual information; clinical records and postmortem reports should be pruned religiously; there should be a well digested summary; and the conclusions should be succinct and include only such statements as are warranted by previous knowledge and the present findings.

Duplication.—In this connection, one of the most common faults is duplication. Reports of research are frequently accompanied by extensive charts and tabulations that repeat material completely brought out in the text. Papers are often received in which the findings are fully stated in the protocols of the experiments, summed up in a running account in the summary, restated and resummed up in extensive tables, and, finally, again pictured graphically in intricate charts. The procedure is much like presenting a diner with three desserts composed of strawberries: fresh strawberries, strawberry preserves and strawberry pie.

COMPLETE CONSIDERATION OF A SINGLE DISEASE

Textbooks have long since made familiar the logical sequence: definition, etiology, pathology, epidemiology, symptoms, diagnosis, differential diagnosis, prognosis, prophylaxis and treatment. From time to time it may be desirable to take up a single disease and to consider it under all these headings. Such instances arise in the preparation of textbook material or of articles to be included in systems of medicine. Again, the sudden

outbreak in epidemic form of an unusual illness, or even of some common disease, may make it worth while to review the subject completely for periodical publication. Ordinarily the writer will find it satisfactory to confine himself to the single phase of the disease which he wishes to present (or to discuss) and on which he has something new to offer. This caution may seem unnecessary, but manuscripts are often received in which the physician has made a single new observation an occasion to repeat again much material that is easily available in the ordinary desk textbook.

THE MONOGRAPH

A monograph is a special treatise on a single subject. Usually after an author has made an extensive series of investigations on some topic, he desires to present all the material in a single publication. In preparing a monograph, it is well to outline the entire material beforehand, so as to avoid duplication. Only the special periodicals publish monographs, and because of their character and limited appeal the author may be asked to bear a portion of the expense.

(To be continued)

New and Nonofficial Remedies

IRON CITRATE GREEN-P. D. & CO. ACCEPTED FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report. W. A. PUCKNER, Secretary.

In the past, the Council has reported that the so-called iron citrate green and solutions of it intended for subcutaneous or intramuscular administration had been found inadmissible to New and Nonofficial Remedies because no evidence had been presented that the green iron citrate possessed any advantages over the pharmacopeial iron and ammonium citrate and because there was no evidence to show that the subcutaneous or intramuscular administration of iron preparations was rational (*Reports Coun. Pharm. & Chem.*, 1916, p. 42; ibid, 1922, p. 53).

The firm of Parke, Davis & Co. has submitted evidence to show that the injection of solutions of the official iron and ammonium citrate and of certain brands of green iron citrate produce pain and that this is due to a low content of ammonium in them. As a result of its investigation, the firm concludes that the use of an iron citrate preparation containing materially less than 8 per cent. ammonia in the form of ammonium may cause severe systemic reactions, and that a content of ammonia materially greater than 8 per cent. in combination will not cause severe local reactions. The firm has, therefore, adopted the use of a green iron and ammonium citrate which contains ammonium citrate equivalent to 8.1 per cent. of ammonia and claims that this preparation has been extensively used without untoward symptoms.

The conclusions of Parke, Davis & Co. are in conformity with the investigation of E. J. Stieglitz (*Am. J. Anat.* **29**:33 [May] 1921), who found a green iron citrate containing 8.8 per cent. of ammonium (equivalent to 8.3 per cent. ammonia (NH_3) was not toxic when injected.

The Council is not convinced that the hypodermic or intramuscular administration of iron yields effects which differ from those obtained by the oral administration. However, the unsettled state of iron therapy and the rather large clinical use of iron by subcutaneous and intramuscular injection, combined with the lack of danger from this method of use, appear sufficient to warrant the provisional acceptance for New and Nonofficial Remedies of iron preparations intended for subcutaneous or intramuscular use.

Therefore, the Council has accepted Iron Citrate Green-P. D. & Co. for New and Nonofficial Remedies.

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

IRON CITRATE GREEN-P. D. & CO.—Iron and Ammonium Citrate Green-P. D. & Co.—A complex ferric ammonium citrate, containing ferric citrate equivalent to 16 per cent. of iron (Fe) and ammonium citrate equivalent to 8.1 per cent. of ammonia (NH_3).

Actions and Uses.—See general article, Iron and Iron Compounds, New and Nonofficial Remedies, 1924, p. 165. Iron citrate green-P. D. & Co. is intended for intramuscular and hypodermic administration, it being claimed that because of the higher ammonium citrate content the use of this product is less painful and less liable to produce coagulation of proteins when injected than is produced with the pharmacopeial iron and ammonium citrate.

The Council is not convinced that the intramuscular or hypodermic administration of iron yields effects which differ from those obtained by the oral administration; however, the unsettled state of iron therapy and the rather large clinical use of iron by intramuscular or subcutaneous injection appears to justify the provisional acceptance of this preparation.

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Ampoules Iron Citrate Green-P. D. & Co., ¼ grain: Iron citrate green-P. D. & Co., 0.015 Gm. (¼ grain); quinine and urea hydrochloride, 0.005 Gm.; distilled water, 1 Cc.

Ampoules Iron Citrate Green-P. D. & Co., ½ grain: Iron citrate green-P. D. & Co., 0.05 Gm. (¾ grain); quinine and urea hydrochloride, 0.005 Gm.; distilled water, 1 Cc.

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Determine the iron content of iron citrate green-P. D. & Co. by the method of the U. S. P. IX for iron and ammonium citrate; the iron content is equivalent to 16 per cent. of iron (Fe.). Determine the ammonium content by distillation; it contains ammonium citrate equivalent to 8.1 per cent. of ammonia (NH_3).

BUTESIN PICRATE (See THE JOURNAL, March 15, 1924, p. 876).

The following dosage form has been accepted:

Butesin Picrate Dusting Powder: Butesin picrate, 5 per cent.; sodium stearate, 95 per cent.

Incidence of Typhoid in United States.—Data compiled from the *Public Health Reports* for thirty-four states show that typhoid fever was somewhat less prevalent in the United States throughout the summer and early autumn than in 1923, but in December a rise in cases occurred instead of the usual decline, making a considerable excess of cases in this month over 1923. The unusual December prevalence in the United States was due mostly to an increase of typhoid fever in New York City, where 500 cases were reported in the four weeks ended December 27, and an additional 182 cases in the remainder of the state. However, the November and December reports indicate that increases occurred also in Louisiana, Texas and Oklahoma; and in many other states the number of cases was slightly in excess of the 1923 incidence.—*Pub. Health Rep.* **40**:250 (Feb. 6) 1925.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 4, 1925

ECONOMIC LAWS, STATISTICS, AND THE DISTRIBUTION OF PHYSICIANS

It is not many years since all statistical investigations were to be distrusted because biometry was as yet no science at all. It was customary to present a few figures and to draw from them extensive and unusual interpretations without taking into account numerous conditions that bore on possible interpretations. The modern biometrician realizes that allowances must be made for all sorts of factors and possible errors in the accumulation of medical statistical material, and is inclined to present his results exactly for what they are. In all the fundamental books on vital statistics, students are warned to beware of interpretations from general death rates.

Elsewhere in this issue appears an analysis by Raymond Pearl[1] of the report on the distribution of physicians in the United States, made by Mayers and Harrison of the General Education Board. He concludes that these investigators have shown great ingenuity and sound judgment in uncovering by appropriate statistical methods the social and economic factors chiefly concerned in a causal way with the alterations in the distribution of physicians. His support of their views is based on an analysis of the relation of the distribution of physicians to the per capita wealth of various communities, leading eventually to the belief that physicians behave in the conduct of life about as any other group of sensible people would be expected to do, moving into a district in which the opportunity of making a living is good, and moving out when that opportunity decreases. "My argument is," says Pearl, "that after the young medical man gets out in the world and by hard experience learns economic wisdom, his behavior thereafter relative to location will not be different according to whether his education was expensive or cheap." It might be well to call attention to certain considerations that bear on this problem, for there are psychologic factors that surely have a distinct bearing. It is generally well known, for example, that after locating in a district and making certain contacts, friendships and acquaintances which have a sentimental, if not a material, hold on him, a man is not likely to move away. No doubt, in that period before he acquires "economic wisdom" through "hard experience," he might seriously consider the advisability of locating in a rural district. Indeed, it is a question whether the young man might not be more attracted by the opportunity of spending his fifth year as an apprentice in a rural district, with perhaps a small salary in addition to his livelihood, than by an internship in some large city institution. These are, of course, both psychologic and economic considerations, and they serve both to reinforce the point made by Pearl and to point the way to the rural community if it wishes to secure physicians. In other words, the social and economic considerations in rural communities must be made such as will appeal to the medical man as compared with those that he may secure elsewhere. This is essentially the conclusion of Mayers and Harrison. In connection with it, however, it may be well to bear in mind the fact that a man who has spent little on his education, either through ease of entrance into medicine or a modified curriculum, is likely to demand less as an immediate return than one who has spent much.

The second point raised by Pearl is again a demonstration of the fact that a few figures may yield a conclusion that is susceptible of all sorts of interpretations. His calculations lead him to believe that the chief social value of the physician is in alleviating suffering, rather than in preventing death. He has found that communities in which there were fewer physicians than others had approximately the same mortality rates. He has not, of course, been able to check communities with no physicians against those with few physicians; nor has he been able to make proper allowance for the extraordinary stress placed on the physician in a community with few physicians, as compared with that in a community in which there are many physicians. In this connection, there are so many factors to be considered that no reasonable interpretation would appear to be warranted on the basis of the material presented by Pearl. Nothing is said of the distances traveled or of the number of persons seen in a given period by physicians in a community that is scantily supplied, as compared with similar considerations in a community that is well supplied. Nor is anything said of morbidity rates, and, after all, in this matter morbidity rates would appear to be of greater importance than mortality rates. Pearl realizes that the human body has a tendency to recover from disease, and that all of us die eventually. It would be necessary to know, before any definite interpretation is placed on his figures, how long persons were ill before recovery when attended

1. Pearl, Raymond: Distribution of Physicians in the United States, this issue, p. 1024.

by a physician, as compared with the duration of illness when not so attended. These few considerations are suggested merely to show how important it is that all the factors be taken into consideration in interpreting the results of statistical investigations.

HUMAN INFECTIONS WITH BACILLUS ABORTUS

Since 1911, when Schroeder and Cotton [1] found that the organism causing contagious abortion in cattle commonly is present in the milk of infected cows, the question as to what effect this germ may have on human beings has come up repeatedly, for it is capable of infecting various kinds of mammals. The first flurry of interest subsided without definite data regarding human infection, but the question of human susceptibility to *Bacillus abortus* arose again with renewed emphasis in 1918, when Evans [2] found that it is so closely related to *Micrococcus melitensis*, the cause of Malta fever in man and goats, that strains of these organisms cannot be differentiated by morphology, biochemical reactions or simple agglutination. Inoculation of pregnant guinea-pigs with strains of *Bacillus abortus* from bovine sources and of *Micrococcus melitensis* from human sources resulted in abortion within a few days. These observations were confirmed by Meyer [3] and his collaborators in this country, and by investigators in many foreign countries, and there is no doubt that *Bacillus abortus* and *Micrococcus melitensis* are so closely related that they cannot be distinguished by ordinary laboratory tests. Their effect on animals, excepting monkeys, is the same. In monkeys, bovine strains appear to be less virulent than human strains—a difference in degree. By the agglutinin absorption test there is a slight but unmistakable difference between the two groups that exist in this country—one known as *Bacillus abortus*, of bovine and porcine infections, and the other as *Micrococcus melitensis*, of human and goat infections. It is obviously illogical to designate by two names organisms so closely related. The generic name *Brucella*, from Bruce, who first cultivated the organism from human cases of Malta fever, has been proposed. Priority of nomenclature demands that the specific name *melitensis*, given by Bruce, be retained. The name *abortus* may also be retained as a subspecies or variety name for the serologic group characteristic of bovine infections.

Evans recently collected a number of strains of *Brucella melitensis* from human Malta fever, and from contagious abortion in domestic animals. The majority of strains of bovine and porcine origin were of the abortus variety, and a few strains from human sources were also of this variety. Strains of the true melitensis variety were obtained from human cases of Malta fever, and from infected goats; a true melitensis strain was obtained from an aborted bovine fetus, and another from an aborted goat. Experimental abortion was induced in a cow six weeks after inoculation with a strain of the true melitensis variety of human origin, and the inoculated organism was cultivated from the aborted fetus and the colostrum. These data show that the abortus variety of *Brucella melitensis* may cause a disease resembling Malta fever in man, and that the true melitensis variety may cause abortion in animals.

In the literature on Malta fever there are records of many cases that could not be traced to infection from goats, the well recognized source of Malta fever. Particularly in France, the drinking of infected sheep milk or the handling of infected sheep carcasses has been found to result in Malta fever infection. Dargein and Plazy [4] reported an outbreak of seven cases of Malta fever among a group of fourteen men who lived together; the infection was traced to a pet dog with three puppies, two of which were born dead. There are other cases of Malta fever for which the source could not be established, although infection from goats could be eliminated. In South Africa, where contagious abortion is said to threaten the cattle industry, there has been for several years a growing suspicion that human Malta fever on farms where contagious abortion of cattle exists probably arose from bovine sources.

In spite of the strong circumstantial evidence pointing to bovine sources of Malta fever infection in man, it was not until January, 1924, that the first authentic case of human infection with the abortus variety of the organism was reported, from Baltimore by Keefer.[5] The source of infection could not be determined, but the history revealed no possibility of infection from goats, and the serologic tests definitely established that the strain was of the abortus variety. A few weeks later, Orpen [6] published his serologic results with four strains from human cases of Malta fever in South Africa, which agreed with strains of abortus isolated in South Africa, and also with a strain of abortus

1. Schroeder, E. C. and Cotton, W. E.: The Bacillus of Infectious Abortion Found in Milk, 28th Ann. Rep., Bur. An. Ind., U. S. Dept. Agric., pp. 139-146, 1911.

2. Evans, Alice C.: Further Studies on Bacterium Abortus and Related Bacteria, II. A Comparison of Bacterium Abortus with the Organism Which Causes Malta Fever, J. Infect. Dis. **22**: 560-593 (June) 1918; Experimental Abortion in a Cow Produced by Inoculation with Bacterium Melitensis, Pub. Health Rep. **38**: 825-826 (April 20) 1923; The Serological Classification of Brucella Melitensis from Human, Bovine, Caprine, Porcine and Equine Sources, ibid. **38**: 1948-1963 (Aug. 24) 1923; Malta Fever: Cattle Suggested as a Possible Source of Infection, Following a Serological Study of Human Serums, ibid. **39**: 501-518 (March 14) 1924.

3. Meyer, K. F., and Shaw, E. B.: A Comparison of the Morphologic, Cultural and Biochemical Characteristics of B. Abortus and B. Melitensis: Studies on the Genus Brucella, Nov. Gen., I, J. Infect. Dis. **27**: 173-184 (Sept.) 1920. Feusier, M. L., and Meyer, K. F.: Principles in Serologic Grouping of B. Abortus and B. Melitensis: Correlation Between Absorption and Agglutination Tests; Studies on the Genus Brucella, Nov. Gen., II, ibid. **27**: 185-206 (Sept.) 1920. Fleischner, E. C.; Vecki, M.; Shaw, E. B., and Meyer, K. F.: The Pathogenicity of B. Abortus and B. Melitensis for Monkeys: Studies on the Genus Brucella, Nov. Gen., III, ibid. **29**: 663-698 (Dec.) 1921.

4. Dargein and Plazy: Relation d'une épidémie de mélitococcie, Bull. et mém. Soc. méd. d. hôp. de Paris. **40**: 1373-1377 (Oct. 20) 1922.

5. Keefer, C. S.: Report of a Case of Malta Fever Originating in Baltimore, Maryland, Bull. Johns Hopkins Hosp. **35**: 6-14 (Jan.) 1924.

6. Orpen, L. J. J.: A Note on the Connection Between Contagious Abortion and Undulant (Malta) Fever in Rhodesia, South African M. Rec. **22**: 75, 1924.

from Europe, but differed from true melitensis strains from Europe. Both Keefer and Orpen state that their cases were clinically typical Malta fever. Later, Evans reported a case of human infection with the abortus variety of the organism. The patient lived in Virginia; he was in the habit of drinking raw cow's milk, but the source of the infection was not definitely established. In addition to these cases, reported within recent months, there have come to the Hygienic Laboratory at Washington for identification three strains of abortus isolated from human cases of Malta fever in South Dakota, Connecticut and New York. The histories in these cases exclude infection from goats.

The actual source of abortus infections in man has never been established definitely in any case. Suspicion rests logically on infected cow's milk. The milk from cows that have recently aborted should be regarded with strong suspicion. The farmer's family drinking such milk would be much more exposed to infection than would city consumers who use a mixed supply in which the infected milk would be diluted with noninfected milk. The city dweller is usually further protected by pasteurization of the milk.

Another method by which human infections with abortus might occur is by the handling of infected animals or infected carcasses. Cesari [7] has called attention to the fact that in France the majority of cases of Malta fever not traceable to goats have occurred among men in slaughterhouses. It is therefore somewhat significant that two of the few cases of abortus infection recognized in this country were in men handling hog carcasses in slaughterhouses. That infected hog carcasses may be particularly dangerous is indicated by the observation by Hadley and Beach [8] that porcine strains causing infectious abortion were more virulent for animals than bovine strains, and their observations have been confirmed.

The fact appears to be established that the agent of contagious abortion may infect man. Malta fever may manifest itself by a great variety of symptoms, which may be acute, or of an obscure and chronic nature. Even in regions where the disease is known to be endemic, diagnosis is often difficult or impossible without the aid of laboratory tests. Malta fever may simulate typhoid fever, tuberculosis or rheumatism. A history of work in a slaughterhouse or of handling animals from herds infected with abortus, or of drinking raw milk from animals that have recently aborted should arouse suspicion that the case in question may be one of Malta fever. As premature abortion of the fetus is a symptom of infection in all animals, it may also be pertinent for physicians to be on the watch for abortus infections as a cause for human abortion.

7. Cesari, E.: La prophylaxie vétérinaire de la fièvre méditerranée, Rec. de méd. vét. Bull. soc. cent. méd. vét. **99**: 327-359, 1923.

8. Hadley, F. B., and Beach, B. A.: An Experimental Study of Infectious Abortion in Swine, Wisconsin Agric. Expt. Sta. Res. Bull. **55**: 1-35, 1922.

SPERMIN CRYSTALS

Sixty years ago, Böttcher [1] published a description of colorless crystals that make their appearance when semen is evaporated slowly. These objects, which he believed were protein in nature, are sometimes observed also in anatomic preparations that have been preserved. They have commonly been referred to as Böttcher's crystals, and their possible identity with the so-called Charcot-Leyden crystals that may be found under certain conditions in blood and tissues has been debated. In 1878, Schreiner came to the conclusion that the substance observed by Böttcher was the phosphate of a new organic base, to which the name "spermin" was subsequently applied. Presently the Russian physiologist Alexander von Poehl reported that he had isolated spermin phosphate from the testis and other organs. He also assigned a chemical formula to the new product, which at one time had erroneously been supposed to be identical with piperazin. Poehl soon came into widespread prominence through the exploitation of testicular extracts, and "sperminum Poehl," in particular, almost as a panacea. The zeal in the promotion of such products was augmented by the somewhat earlier activities of Brown-Séquard, who began about 1889 to exalt the tonic effects of testicular extracts. The comparable search for the elixir of youth through organotherapeutic measures has only lately been revived anew. Poehl alleged that spermin is an important factor in the oxidation of the tissues. He was responsible, according to Cushny, for the assumption that a number of symptoms of disease are due to its being precipitated in the form of the phosphate and thus being rendered inactive, this being especially liable to occur whenever the alkalinity of the blood is reduced in any way. The claims are not founded on any satisfactory experimental or clinical evidence, and have been received with little credence from experienced physicians.[2]

Despite the discredit into which Poehl's assertions have properly fallen, it appears to be true that he had actually secured definite preparations of spermin phosphate. The nature of this product has been subjected to an elaborate examination by a group of English investigators.[3] The base spermin has been isolated by them from testis, ovary, pancreas, muscle, liver, brain, spleen, thymus and thyroid. It has been obtained also from yeast. The most probable empiric formula is $C_{10}H_{26}N_4$. Spermin is distinguished from all other naturally occurring bases heretofore described by the remarkable property of forming an extraordinarily insoluble phosphate. This salt is of the greatest his-

1. Böttcher, A.: Farblose Krystalle eines eiweissartigen Körpers aus dem menschlichen Sperma dargestellt, Virchows Arch. f. path. Anat. **33**: 525, 1865.

2. Poehl's Spermin in Arteriosclerosis, J. A. M. A. **56**: 1132 (April 15) 1911; The Propaganda for Reform in Proprietary Medicines, Chicago, American Medical Association, 1916, p. 395.

3. Dudley, H. W.; Rosenheim, M. C., and Rosenheim, O.: The Chemical Constitution of Spermine, I, The Isolation of Spermine from Animal Tissues, and the Preparation of Its Salts, Biochem. J. **18**: 1263, 1924.

torical importance. It is the most remarkable of all the salts of spermin, its characteristic crystalline form and great insolubility being the properties that led to its early detection.

According to an interesting study of Rosenheim[4] in London, the so-called Böttcher crystals have a longer history of recognition than has been generally appreciated. Not only were they described by Vauquelin in 1791 and subsequently mentioned by the Swedish chemist Berzelius, but the earliest reference to them dates back much further. In the famous communication to the Royal Society of London announcing the discovery of spermatozoa by Antony van Leeuwenhoek in 1678, there is a passage describing the crystals in semen, and also a sketch of them. Hence the story of the spermin phosphate crystals, so long an object of curiosity and biochemical speculation, must be rewritten. This does not, of course, invalidate the evidence as to the therapeutic inefficiency of such preparations.

Current Comment

VACCINATION FOR SMALLPOX

Among the leaders in the campaigns for recognition of scientific medicine by the public, for properly conducted animal experimentation, and for vaccination against smallpox, the name of Dr. W. W. Keen is conspicuous. The *Saturday Evening Post* recently published his account of "Personal Experience in Three Epidemics of Smallpox," reaching millions of persons with his statement of fundamental truths. He cites his experiences in epidemics that occurred during the Civil War; gives the main facts of the Montreal epidemic, in which 3,164 people died of smallpox in ten months in 1885, and submits the figures from Germany and from the Philippine Islands. Thus he leads any intelligent reader to accept the conclusion that "smallpox in any civilized community is a disgrace." The case rate of smallpox in any community, as Dr. Keen pointed out also in the *Survey*, is a direct index of the degree to which universal vaccination is preached and practiced in that community. Massachusetts reported a case rate of 0.1 per hundred thousand population during 1923, whereas Montana had a rate of 110. This difference is due without doubt to the manner in which vaccination is preached and practiced in these two communities. As might have been expected, the publication of the article by Dr. Keen brought to the periodicals that have been mentioned protests from those fanatical opponents to medical progress who greet every attempt to educate the public with sneers and invective. Dr. Keen has answered them, as they should always be answered, with simple statements of the available facts and figures. It would be well if every physician would lend his aid to this service of enlightenment. Only by proper education of the uninformed may we hope to reach that day when all the diseases that science has shown to be preventable are completely eliminated from our communities.

4. Rosenheim, O.: The Isolation of Spermine Phosphate from Semen and Testis, Biochem. J. **18**:1253, 1924.

THE CULION LEPER COLONY

Seventeen years ago, the government of the Philippine Islands set aside Culion Island for lepers and built a village there. Today the Culion leper colony is a typical native town of 5,000 people. Amid the beauty of mountain and sea, the lepers live much as do other island communities. A benevolent government supplies electric light, ice, food, entertainment and shelter. Established primarily to segregate these unfortunate persons, Culion became, with the introduction of chaulmoogra oil, also a great hospital. Culion is the largest, and perhaps the best managed, leprosarium in the world. It offers an exceptional opportunity to rid the islands of a hitherto incurable disease, and to erect a lasting monument to the Filipino race. In the brief period since the colony was established, segregation has reduced the number of lepers. The day has passed in the Philippines when lepers clerk in grocery stores or teach in public schools. The problem now, says Heiser, is in striking contrast to that of former years. Segregation, however, has failed to meet the approval of all the Filipino people, and there is strong sentiment against maintaining Culion as it is today. They say that Culion is a great expense; patients are separated from friends; the epidemiology of leprosy is not understood, and active treatment in itself now offers hope of control. Those who advocate a change want the number of patients at Culion reduced, and dispensaries established in the provinces. Distance thus may be reduced, but segregation cannot be abolished so simply. The Culion leper colony appears to be the only attempt at control that has offered any hope of success, and seventeen years perhaps is too little time to show what Culion and segregation can do. The experiment should not be discontinued or curtailed.

THE DEATH OF WASSERMANN

Prof. August von Wassermann died in Berlin, March 16, at the age of 59. His career from the time when he studied medicine in the universities of Berlin and Strasbourg, through his period of research in the Koch Institute and the Charity Hospital in Berlin, was marked always by rigid adherence to scientific ideals. In 1898, he became professor at the Berlin University; in 1903, he was appointed ordinary professor, and in 1907 he was given the directorship of the university department for therapeutic and serum research. The last mentioned appointment no doubt came about as a result of the discovery of the complement fixation test in syphilis, now known as the Wassermann test, which he announced in 1906. In 1905, Schaudinn had announced the discovery of *Spirochaeta pallida*, the organism that produces syphilis. Wassermann, working with Neisser and Bruck, tried to produce complement fixation in syphilis by using blood serum of

syphilitic monkeys as amboceptor, and watery extracts of syphilitic organs as antigen. The next step was to apply this experiment to man, and a classic paper describing this experiment bears the names of Wassermann, Neisser, Bruck and Schucht. It appears that Detre somewhat antedated this discovery, but the first paper referring to the work on monkeys had been published previous to that of Detre. It should be remembered, in this connection, that the work of Bordet and Gengou was fundamental to the final work of Wassermann. Even today there exists no adequate explanation of the Wassermann test; explanations based on the chemical and on the biologic factors have been offered, and possibly the final explanation will be a physicochemical-biologic one. In 1913, Wassermann became director of the new department of experimental therapeutics at the Koch Institute. Since that date his name has been connected with various interesting researches in medical science dealing with the problems of cancer and tuberculosis. None of these, of course, brought to him the renown naturally associated with the technic of the test now used so widely and to such practical advantage.

Association News

GRANTS MADE BY COMMITTEE ON SCIENTIFIC RESEARCH

Dr. Ludvig Hektoen, chairman of the Committee on Scientific Research of the American Medical Association announces that the committee has made the following grants:

Harry L. Huber, Chicago, for chemical and immunologic study of pollens, $500.

Dr. Arthur M. Yudkin, New Haven, for study of experimental cataract, $500.

Dr. Arthur W. Meyer, Stanford University, for study of experimental polyneuritis, $400.

Dr. Margaret M. Hoskins, University of Arkansas Medical School, Little Rock, for study of physiologic action of thyroxin, $100.

Dr. Charles E. Simon, Johns Hopkins University, for experimental study of measles, $200.

Dr. William G. Lennox, Harvard Medical School, for experimental study of epilepsy, $100.

THE ATLANTIC CITY SESSION

Railroad Rates to Atlantic City

The passenger associations throughout the United States have authorized a rate of one and one-half fares for the benefit of members of the American Medical Association who will attend the Seventy-Sixth Annual Session to be held in Atlantic City, May 25-29. The Canadian Passenger Association has also authorized this reduced rate from points in Canada east of and including Armstrong, Fort William and Sault Ste. Marie. *In order to secure the reduced fares, it will be necessary for each member to secure a certificate from the ticket agent when he purchases his ticket to Atlantic City.* This certificate must be certified by the Secretary of the American Medical Association at the Registration Bureau on the Steel Pier in Atlantic City, and must then be validated by a representative of the railroads who will be on duty at the Registration Bureau. The certificate, when so certified and validated, will entitle its holder to a return ticket to his home at one-half fare.

It is important to remember that the certificate referred to above is not in the nature of a receipt for money paid for a ticket. *Be sure to ask your railroad ticket agent for a CERTIFICATE and not for a receipt.*

In the territories of the Trunk Line Association, the New England Passenger Association, the Central Passenger Association, the Southeastern Passenger Association, the Southwestern Passenger Association, and the Eastern Lines of the Canadian Passenger Association, the dates of sale of tickets to Atlantic City will be May 20-26, inclusive. In the Transcontinental and Western Passenger associations' territory the dates of sale of tickets to Atlantic City will be May 20-26 from Illinois, Iowa, Kansas, Manitoba, Minnesota, Missouri, Nebraska, Northern Michigan, North Dakota, South Dakota, Wisconsin and from Julesburg, Colo., but will be May 19-25 from Colorado (except Julesburg), Montana, New Mexico, Utah and Wyoming, and will be May 18-24 from Arizona, British Columbia, California, Idaho, Nevada, Oregon and Washington. Certificates, *properly certified and validated*, will be honored for purchasing tickets for the return journey at one-half fare, up to and including June 2, *but these certificates will not be honored after that date.* Return tickets issued at the reduced fares will not be good on any limited train on which such reduced fare transportation is not honored. No refund of fare will be made on account of failure to obtain proper certificate when ticket to Atlantic City is purchased, nor on account of failure to present validated certificate when purchasing return ticket. The return ticket must be used over the same route as that traveled going to Atlantic City.

Summer excursion fares on a lower basis than the certificate plan fares will be in effect from Arizona, British Columbia, California, Idaho, Nevada, Oregon and Washington, May 22.

Registration

Fellows Should Bring 1925 Fellowship Cards.—All Fellows attending the Annual Session at Atlantic City should have their 1925 Fellowship cards for presentation at the Registration Bureau. Registration will be greatly expedited if all Fellows will present these cards when registering.

Members Who Are Not Fellows of the Association Should Bring State Membership Cards.—Members of the American Medical Association attending the Annual Session at Atlantic City, who are not Fellows or cannot qualify as Fellows prior to the Session, should bring with them their state association membership cards, in order that they may not be delayed in securing certification of railroad certificates. Those members who desire to apply for Fellowship will expedite qualification by presenting their state association membership cards, when registering.

One Hundred Per Cent. Registration.—The Local Committee of Arrangements announces that active effort will be made to secure 100 per cent. registration. A large committee of local physicians, with Dr. Ward D. Scanlan as chairman, will be on hand to give assistance at the Registration Bureau. The members of this committee will wear badges by which they can be identified.

Johns Hopkins Alumni Dinner

There will be an informal get-together dinner of alumni of Johns Hopkins University Medical Department at Hotel Chalfonte-Haddon Hall in Atlantic City at 7 p. m., Wednesday, May 27. Those who wish to attend this dinner should notify Dr. Clarence L. Andrews, 1801 Pacific Avenue, Atlantic City, and send him a check for $5 for reservation.

Scientific Exhibit

One of the attractive scientific features of the Atlantic City Session will be a Morbid Anatomy Exhibit under the direction of Dr. Allen J. Smith and Dr. Baldwin Lucké of the Department of Pathology of the University of Pennsylvania. This special exhibit is being arranged by Drs. Smith and Lucké with the cooperation of the Board of Trustees of the American Medical Association. Fresh pathologic material from Philadelphia hospitals will be shipped direct to Atlantic City daily. It may be recalled that last year a similar exhibit under the immediate direction of Dr. Ludvig Hektoen and his associates was the center of interest, as was attested by the many physicians who visited the demonstration.

ATLANTIC CITY HOTELS

A partial list of Atlantic City Hotels was printed in THE JOURNAL, January 24. The names of additional hotels with rates appear below:

Hotels Grouped by Location	Plan	Rooms Without Private Bath				Rooms With Private Bath			
		For One Person		For Two Persons		For One Person		For Two Persons	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Boardwalk:									
CHELSEA	American	$8.00	.....	$14.00	.....	$9.00	$10.00	$16.00	$18.00
CHELSEA	European	None	None	None	None	None	None	None	None
Virginia Avenue:									
GERSTEL'S JEROME	American	5.50	6.50	10.00	12.00	7.00	8.00	13.00	15.00
GERSTEL'S JEROME	European	2.50	4.00	4.00	7.00	3.00	5.00	6.00	10.00
Pennsylvania Avenue:									
HOLMHURST	American	5.00	6.00	10.00	12.00	8.00	10.00	14.00	16.00
HOLMHURST	European	None	None	None	None	None	None	None	None
Tennessee Avenue:									
FREDONIA	American	None	None	None	None	None	None	None	None
FREDONIA	European	2.50	.....	4.00	.....	3.00	.....	5.00	.....
Kentucky Avenue:									
KENTUCKY	American	4.00	6.00	7.00	10.00	5.00	7.00	10.00	12.00
KENTUCKY	European	2.00	3.00	3.00	5.00	3.00	5.00	5.00	8.00
BYRON	American	5.00	6.00	8.00	10.00	6.00	7.00	11.00	13.00
BYRON	European	....	....	....	.....	....	....	.....	.....
Michigan Avenue:									
BRYANTON	American	3.50	4.50	6.00	8.00	5.00	5.50	8.00	9.00
BRYANTON	European	2.00	2.25	3.00	4.00	2.50	3.00	5.00	6.00

All who intend to go to Atlantic City should make their hotel reservations at the earliest possible time and thus prevent confusion and assure themselves of accommodations at the hotels of their choice. Everybody will be well taken care of, as Atlantic City has abundant hotel capacity.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE, PUBLIC HEALTH AND HOSPITALS

Held in Chicago, March 9, 10, 11 and 12, 1925

(Continued from page 989)

MEDICAL EDUCATION

MARCH 10—AFTERNOON

Educational Conditions in Rural Communities

MR. GEORGE F. ZOOK, Washington, D. C.: The only politic as well as humanitarian way to consider the problem of medical service is frankly to adopt the point of view that the rural population should, so far as physical conditions admit, possess medical advantages equivalent to those enjoyed by the urban population. In the rural districts, therefore, as in the city, there is the necessity for organizing health education for adults as well as school children. There is the problem of regulating the care of contagious diseases. There is the problem of training public health nurses and establishing an organization of community and county nurses. Dental clinics for children in the schools and for adults in small villages and towns must be organized. These things and more are all a part of the problem of providing adequate medical facilities for the rural communities, so that those in the field of general education all appear to be important parts of a single problem; namely, the preservation of the health of those who live on the farms and small villages of this country. Complex as the problem may be, it seems clear that it cannot be solved without the cooperation of all those agencies which are now dealing with it.

Present Conditions and Tendencies in Rural America, Especially as Related to Health

DR. WILLIAM L. BAILEY, Evanston, Ill.: Sociologists and medical interests agree on the vital importance of rural health and vitality. But current conditions in agriculture and hence in rural life are creating an especially critical situation. The problems, however, are different for the open country farming population and for the village, owing to environment, economic life and social composition; they differ greatly also for different sections. Rural superiority over urban in vital conditions is not due to stock but to life conditions, the negro problem being regarded as special. And revolutionary changes are in process in every section and in every phase of rural life.

The traditional unprofitableness of agriculture and the unattractiveness of rural life generally have been intensified by postwar conditions, as well as by contrasts with the now preponderant and much more rapidly growing towns and cities, expanding and prosperous economically and making great social advances. The number of rural migrants has almost doubled. Steps in rural progress, such as good roads, consolidated schools, successful rural churches and even cooperative marketing, have not altered the general trend, and in fact seem to enhance it. Marked change in outlook and policy both for agriculture and for rural social institutions are in necessary and immediate prospect. The urban movement has virtually suburbanized a majority of country districts. The new program for rural America is a joint and mutual one, for city and country.

The growth of urban communities, their welfare and health are vitally related to the rural. The federal government is providing new knowledge of rural conditions, but rural vital statistics are far behind urban. Rural health advances lag behind urban, yet it is the seed plot of population, and provides two thirds of urban increase. Rural health being so largely a matter of life conditions and habits, it directly feels the current depression in general farm income and costs of living, limiting the use of medical service to a minimum. No health program involving taxation unless on a county (town and country) basis, or a "unit system" under state auspices, will be feasible.

Tenant and laboring farmers especially, because of youthfulness and economic limitation, though living insanitarily and under great physical and psychic strain, utilize patent aids, and resort to real service only in maternity and emergency cases. The older and well-to-do retire to the town, often for health considerations. The city has twice as many physicians as the country, which is increasingly served in and from the former, because of changed rural conditions.

But rural retardation in health progress and possibly lowering vitality are due more to general living conditions and life habits than to lack of technical medical service. The extension of medical field services, the allies of the profession, is urgently needed. The increasingly technical and urbanized training of both physician and nurse may well result in a relative neglect of rural services. Medical training should pay more attention to life conditions; it might well be somewhat differentiated according to the field of service; a period of field service otherwise than internship, as nursing or medical assistant on the rural side to physicians and hospitals, might be feasible.

The rural health and vital problem is very largely one of hygiene, of life habit, and one not so fully subject to purely technical control or to regulation by law. Extension forms of the medical profession, resulting from such a broadened conception, working in close correlation with church and school and other culture agencies, can do most in the current crisis. The school has already actively entered on this phase: the church has yet to relate itself to this problem of the present rural situation.

Present conditions and tendencies in rural America being what they are, sociologists and medical interests are under a peculiar responsibility to work in cooperation on such a common and vital problem.

The Principles Governing the Distribution of Physicians and Some Corollaries Thereof

DR. WILLIAM ALLEN PUSEY, Chicago: The great problem that medical education has to face is to square itself with economic and social facts. We are not doing this now, either as respects the expensiveness of education to students or to the institutions giving it.

The graduates we are turning out under our present requirements of education are not, except in rare instances, doing the ordinary service of medicine; they will not do it in the cities and they will not do it in the country. This fact we must face.

The meaning of all this is that if we are going to produce medical men who will do the traditional service for society we shall have to put the minimum price which they pay for this privilege at a point where the demands which the doctor has a right to make of society will not be above its ability to pay. We are offering no satisfactory solution of this situation in our present program. The program which would in large part relieve the situation would be one that would reduce the demands that medical education makes on the time and means of students. The reduction in the time requirements of medical education does not necessarily mean a superficial course. It can be made quite as sound as our present course, and should be so. As a matter of fact, our present course is open to charges of unsoundness and lack of thoroughness. The greatest of these is that up to the present an apprenticeship has not been invariably required. No medical education can be sound that does not require an apprenticeship in practice, for the practice of medicine is an art, and no art can be learned without practice.

Medical education is excessively expensive now to the institutions giving it. From being the poor relation of education, we have become its spoiled child. There are good grounds for questioning the excessive cost of medical education in comparison with other forms of education, and sooner or later we shall probably have to justify our position here. This has an important bearing on the problem of the supply of physicians, because, under the excessive material demands we have made on medical schools, only very large schools of enormous income are able to survive. Even with those that have survived, the requirements placed on them have been so high that they can take care of only about half as many students as they were in many cases designed for and formerly took care of. Another result is that the less highly endowed schools, many of them of sound quality, and of an honorable record, have been compelled to go out of existence. We cannot solve the problem of medical service in the country by a few richly endowed great medical schools. We need relatively small local schools to care of students of their districts. Such schools we have suppressed through the requirements that we have made on them.

Distribution of Physicians in the United States: A Commentary on the Report of the General Education Board

DR. RAYMOND PEARL, Baltimore: [This article appears in full in this issue of THE JOURNAL, page 1024.]

The Situation as Regards Rural Physicians in Minnesota

DR. E. P. LYON, Minneapolis: My opinions on this question are based on the experiences of our Minnesota graduates in seeking locations, the requests for physicians that come to the dean's office, and some study of the distribution of physicians in the state as indicated by the American Medical Association Directory. I am fairly certain that the following statements are true:

1. There never was a time when the entire population of Minnesota had adequate or convenient medical service. There were always sparsely settled districts which were a long distance from a physician.

2. The condition is better now than it ever was before. This is due chiefly to improved methods of communication and transportation.

3. Some rural people are farther in distance from a physician than they used to be. Few, if any, are farther in time. Distance adds to charges. The population has not adjusted itself to the change, and consequently complains.

4. Many of the reported vacancies are not bona fide. There are physicians in the places reporting vacancies or near by. Often the calls come from druggists who are not satisfied with the physician, or from people who have an office to rent or from dissatisfied patients who would like a change—at some one else's expense.

5. There is hardly a village in Minnesota of 500 inhabitants without a physician. There are none of 600 or over without a physician.

6. Physicians cannot make a living—say $2,500 a year—in some locations that formerly supported a physician. Many facts of modern life contribute to this condition.

7. In spite of a greater tendency to locate in large places, recent graduates are not refusing to locate in the country. The 1925 directory shows that thirty-two graduates of 1913-1917, and sixty-two graduates of 1918-1923 are in villages of less than 1,000 in Minnesota.

8. There is a steady growth in the number of small hospitals. The county seat tends to become a medical center.

9. A physician's education costs about $2,000 in excess of a high school teacher's education, and requires two years longer in time. Considering the physician's responsibilities, this does not seem excessive.

10. The rural population wants good medical service and will not patronize a man whom it considers poorly prepared. The country district sends a large amount of practice to the city, thus making the situation of the local man untenable. The richer the country district, the more do the inhabitants go to the city for medical service, as for everything else.

11. On the average, the graduate of 1925 is a better physician than the graduate of 1905, more intelligent fundamentally and better trained. The present-day graduate is not better than the people demand.

12. Only socialization can provide medical service in sparsely settled communities. Only socialization can secure compensation for the disease prevention activities of physicians. Only a quasi but unrecognized form of socialism founded on the fee system, by which the rich indirectly pay for the poor, has ever secured any kind of medical service for those who cannot pay. Education has been frankly socialized, to the tremendous benefit of the community. Physicians have been glad enough to have medical education socialized. The sooner physicians get over their unfounded opposition to the socialization of medical practice and begin to work for it, so far as it may be necessary to secure good medicine for all the people, the better it will be for the people and for physicians.

13. The proposition that an oversupply of physicians would cheapen medical service is fallacious. An oversupply tends rather to raise charges, slacken morals and degenerate the medical profession. It is hard enough for the physician to stand four-square before the temptations that beset him. Cut-throat competition would mean the domination of business methods and the extinction of professional ideals.

14. The quacks and sectarians locate in the large centers of population. They are not a factor in the rural problem.

DISCUSSION ON PAPERS OF DRS. ZOOK, BAILEY, PEARL AND LYON

DR. T. J. CROWE, Dallas, Texas: I believe that Dr. Pusey has made a thorough study of the medical situation from his standpoint. I do not believe, however, that the shortage of medical men in the rural districts is as acute as he would

have us believe; it is more apparent than real. The real truth of the matter is that at present we are graduating more men than we did five years ago, and it is not so much a shortage of physicians in the rural community as it is that we have taken the urban facility to the rural community. Frequently in the last two or three years I have had calls from rural districts for medical practitioners, and I have sent young men from the hospitals out to those communities, and almost invariably they have returned. Why? Because Henry Ford has removed that section of the country known as rural districts, in a large measure. The medical student that we send out now to the rural district attempts to practice; when he gets settled down there he finds that John Jones or Jim Smith, the influential man of the community who can afford to do so, instead of employing him when one of the family is sick, say, with typhoid, jumps into his automobile and takes his patient to the city hospital. Instead of employing him for an obstetric case, he again goes to the city. When one of the family is stricken with appendicitis, instead of employing a young man who went out a few weeks ago well equipped and well trained in surgery, they take the patient to the city. How are we going to keep the young man in the rural community while we are taking the urban facility to the farmer? We cannot do it. The shortage of physicians is more apparent than real. I believe there are plenty of physicians in the country. I do not believe with Dr. Pusey that we can educate men in medical sciences in any less time than is being devoted to them at present. I do not believe that the medical profession is yet prepared to sacrifice efficiency for quantity, and I do not believe that they ought to do it.

DR. WILLIAM KEILLER, Galveston, Texas: Dr. Lyon's remarks apply to Texas just as they do to Minnesota.

DR. L. E. BURCH, Nashville, Tenn.: To a certain extent, Dr. Pusey has done harm. In Tennessee the legislature recently passed a law lowering the medical practice act, and any man with a high school diploma can now go before the state board for an examination. This bill, if signed by the governor, will eliminate reciprocity in Tennessee. However, there are points to consider. There is a scarcity of rural practitioners. At present, seventeen men of the senior class at Vanderbilt University Medical School are from rural districts; eleven of the number are working their way through school. Not one of the seventeen intends to go back to the rural district. I should like to make this suggestion: Two years of premedical work are required for admission to medical schools. Of the sixty semester hours, thirty-four are prescribed in chemistry, physics, biology and English. Why not add bacteriology, physiology and osteology to the prescribed courses, and then shorten the medical course to three years? Thus, the present six years' course will be shortened to five years, and medical practice acts will not be interfered with, and we shall have more students in medicine and, therefore, more graduates.

DR. HAROLD RYPINS, Albany, N. Y.: I should like to substantiate Dr. Pearl's remarks on the correlation of economics and the distribution of physicians. New York State has a very wealthy rural population. I do not believe that I have ever had a request in my office from a rural community for a physician, but not a week goes by that I do not get a request from a physician to find a good rural opening for him. I think that is because the rural population in New York is economically wealthy. Another thing I would point out is that in New York State we refuse to license several hundred foreign physicians every year who are well trained but who do not meet our technical requirements. If there are many rural communities that are desperately in need of adequately trained physicians, I think a certain amount of that supply could come from these Europeans.

DR. G. M. ANDERSON, Cheyenne, Wyo.: If any state can be regarded as being rural, it is Wyoming. We average one person to the square mile. There are only five towns of 5,000 or more population. As a member of the board of medical examiners, every week I have an inquiry from some physician for a location. That is surely an indication that that man wants a rural location, because that is all we have. In the community in which I practiced the first two years I was in Wyoming, I was often called to go 80 miles from the county seat. We get $2 a mile out there; that meant about $160 a visit. The last four years, before I became a health officer, I never got a call outside my home town, showing the difference since Henry Ford solved the rural transportation problem. They bring in their wives now, and the men who are injured. We have applications all the time from men who want to locate in these towns, but they will not support them. Then there is another phase as to why physicians cannot live in certain communities. It is a religious reason: the Mormons. In a county 60 miles long and 15 miles wide, well settled, one woman said she had borne eight children and her husband had to officiate in each case; another had borne nine, and we have the record of one with sixteen. Hundreds of these farmers do not employ physicians. There is only one physician in that valley 60 miles long and 15 miles wide.

DR. E. E. MUNGER, Spencer, Iowa: Speaking from the standpoint of a country practitioner for thirty years, I would say that on general principles the lowering of standards is a mistake. Some good physicians can be turned out on the basis of low requirements, but that is not an assurance that these men will go into rural districts to practice. It might be of advantage to make a health survey of rural America. Any loss the rural districts have suffered by the removal of physicians may be adjusted, and, perhaps, to their advantage, by an adequate supply of hospitals.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—Dr. Charles A. Love, Atascadero, has resigned as superintendent of the Lewis Memorial Hospital.——Dr. Joseph T. Christian, Galt, has been appointed health officer of Sacramento County to succeed Dr. George H. Sanderson, Folsom City.

Hospital News.—The new $1,000,000 Sisters of Mercy Hospital at Sacramento was recently dedicated with appropriate ceremonies.——St. Joseph's Hospital, San Francisco, is conducting a drive for $500,000 for the fireproof construction of the main building.

Milton H. Berry Arrested.—Milton H. Berry, Los Angeles, "specialist in paralysis," was arrested, March 9, on a charge of violating the state medical practice act and released on $2,000 bond. His books show that fees charged fourteen patients totaled $29,100. Berry formerly advertised extensively in local papers, selling a cloth chart, which the patient wore like an apron, indicating where he should punch to cure himself. Berry also published in the Los Angeles *Times* in 1923 a serial entitled "The Saint of the Paralytics." He has had this published in book form; otherwise he advertises by means of letterheads which read "Milton H. Berry—Specialist in Paralysis."

COLORADO

Hospital News.—Earlene Hospital, Grand Junction, formerly known as the Grace Sanatorium, has been taken over by Dr. Guy F. Ewing, formerly of Wood Lake, Neb.

CONNECTICUT

Smallpox in 1924.—There were 100 cases of smallpox and five deaths in Connecticut in 1924. Of eighty-two cases in which vaccination histories were certain, one patient had had smallpox eighteen years ago, sixty-three had never been successfully vaccinated, none had been vaccinated within seven years, and eighteen had been vaccinated more than seven years ago. Of the five who died, four had never been successfully vaccinated and the fifth was a woman, aged 77, who had been vaccinated in childhood.

GEORGIA

Physician Bound Over.—Dr. Marion A. Born, Athens, was bound over to the Clarke County grand jury, March 15, it is reported, in connection with the death of a young woman following an alleged illegal operation. The bond was fixed at $7,000.

IDAHO

State Board Appointments.—The commissioner of law enforcement has appointed the following physicians to constitute a state medical examining board which will convene at Boise, April 7: Fred A. Pittenger, Boise; Leo W. Chilton, Boise; Abram M. Newton, Pocatello; Charles O. Moore, Paris, and Warren B. West, St. Anthony.

Bills Vetoed and Approved.—The tuberculosis hospital bill has been vetoed by the governor on the grounds that the state has too many institutions to support. This measure proposed to make available money in the general fund raised by taxation four years ago for the care of tuberculosis patients.——Governor Moore signed the sterilization bill, March 13.

ILLINOIS

Tornado Casualties.—A recheck of casualties due to the recent tornado indicated, March 21, that the total number of persons killed was 809, and persons injured, 2,816. There were then, it is reported, 363 surgical cases awaiting operation in and near Murphysboro, 305 in West Frankfort and seventy in the Herring Hospital, brought from Bush.

Infectious Disease Mortality in Illinois.—The state department of health reports that there was a sharp decline in the number of deaths from diphtheria in 1924, the total being 470 compared with 801 the year before. This is a rate of 6.8 per 100,000 population; the lowest rate prior to 1924 was 11.8. Deaths from typhoid decreased from 319 in 1923 to 239 in 1924, the lowest previous record being 282 in 1922. The measles mortality fell from 561 in 1923 to 225 in 1924, and deaths from scarlet fever from 225 to 206. Deaths from tuberculosis rose from 5,557 to 5,581, although the rate (81.2 per 100,000 population) dropped slightly from 81.9 for the previous year. Deaths from smallpox rose from 2 to 16.

Chicago

Physicians in Emergency Have Right of Way.—Corporation Counsel Busch ruled, March 28, in a letter to the chief of police, that physicians on emergency business, whose cars are equipped with proper insignia, have the right of way in street traffic, and on such occasions may make left turns in the loop.

Dr. Dean Lewis Goes to Johns Hopkins.—Dr. Dean Lewis, formerly professor of surgery, Rush Medical College, and recently at the University of Illinois College of Medicine, has been appointed professor of surgery at Johns Hopkins University Medical Department, and surgeon-in-chief, Johns Hopkins Hospital, Baltimore, to succeed the late Dr. William S. Halstead. Dr. Lewis will take up his new duties in September.

Society News.—The meeting of the Institute of Medicine, Chicago, April 24, at the City Club, will be devoted entirely to the presentation of work by Chicago investigators, four of whom will be doctors of philosophy and four doctors of medicine.——The Chicago Council of Medical Women will meet, April 28, at 40 East Erie Street. This program on hemorrhage in the eye, ear, nose and throat will close the year's study of hemorrhage.——Dr. Don W. Deal addressed the Chicago Medical Society, April 1, on "Chest Surgery from Two Viewpoints," and Dr. Herman Cole on "Therapeutic Pneumothorax and Mechanical Devices for Controlling Lung Excursions."——Drs. Roswell T. Pettit, Ottawa, Ill.; John L. Tierney, St. Louis, and James T. Case, Battle Creek, Mich., will conduct a symposium on "Lesions of the Respiratory Tract" before the Chicago Roentgen Society at the Virginia Hotel, April 10.——Drs. Dean Lewis and Edwin M. Miller addressed the Chicago Surgical Society at Wesley Hospital, April 3, on "End Results in Peripheral Nerve Surgery," Dr. Dallas B. Phemister on "A Study of the Ossification Occurring in Bone Tumors," Dr. Albert H. Montgomery on "Primary Pneumococcus Peritonitis" and Dr. Oscar E. Nadeau on "Abdomenoscopy."——At the meeting of the Chicago Laryngological and Otological Society, Great Northern Hotel, April 6, Drs. Joseph C. Beck, Harry L. Pollock, Otto J. Stein, John C. Cavanaugh and Thomas C. Galloway, Jr., will speak. Drs. Frederick Tice, Peter Bassoe and Maurice Lewison have been invited to take part in a discussion of "Hemiplegia Following Antrum Irrigation."

INDIANA

Society Wins Suit.—The suit filed against the Indianapolis Medical Society by the owners of the Clark-Blakeslee Hospital, said to be an osteopathic institution, has been decided in favor of the society (THE JOURNAL, January 31, p. 375, and February 28, p. 682).

Personal.—Dr. Ernest V. Nolt, Columbia City, has been appointed county health officer to succeed Dr. David S. Linvill.——Dr. Albert W. Miller, Indianapolis, has succeeded Dr. Mason B. Light as health officer of Marion County.——Dr. Chauncey W. Dowden, Louisville, Ky., has been appointed medical director of the hospital and health service department recently added to the West Baden Springs Hotel.

Cult Bills That Failed.—The chiropractic bill before the Indiana legislature failed to pass. Originally, the bill called for a separate board for chiropractors, but the house amended the bill so that a chiropractor would be on the state medical board and the regulation of his cult would be under the jurisdiction of the Indiana Board of Medical Examination and Registration. This did not suit the chiropractors. They helped to kill the bill.——The neuropaths had a bill introduced in this legislature calling for a separate board of examiners. It failed to pass, too.

IOWA

Hospital News.—The trustees of Burlington Hospital, Burlington, have let the contract for the erection of a $100,000 addition to that hospital.——St. Anthony's Hospital, Carroll, recently opened a new fireproof home for nurses, which was erected at a cost of $150,000.

Veterans Honor Dr. Parrish.—Fifteen veterans of the Civil War attended a dinner, March 7, at the home of Dr. William O. Parrish, Osceola, in honor of his eighty-sixth birthday. Dr. Parrish, a veteran of the Civil War, was in active practice until 1921.

Dr. Griswold Appointed Health Commissioner.—The appointment of Dr. Don M. Griswold, Iowa City, as state commissioner of health was confirmed by the senate, March 23. Dr. Griswold will take office, July 1, succeeding Dr. Rodney P. Fagen, Des Moines. He has been state epidemiologist for several years, and is now acting head of the department of preventive medicine and hygiene of the state university medical school.

MAINE

New England Health Institute.—Under the auspices of the U. S. Public Health Service, the New England state health departments, Yale and Harvard schools of public health, and the departments of public health and biology of the Massachusetts Institute of Technology and Simmons College, the New England Health Institute will be held in Portland, May 4-9. There will be eighty-seven lectures on health subjects by prominent authorities. It is expected that more than 1,000 persons will attend, for which there is no charge except a $1 registration fee.

MARYLAND

New Dispensary at Johns Hopkins.—A new dispensary building, said to be the largest and most adequately equipped of its kind in this country, will shortly be under construction at the Johns Hopkins Hospital. The building will adjoin the present pathology building, with which it will conform in architecture, and will occupy the site of the old dispensary on Monument Street. The cost of construction will be under $1,000,000; that amount, together with an additional $1,000,000 for endowment, having been contributed by the Carnegie Corporation, New York.

Personal.—Dr. William Wilmer, Washington, D. C., has accepted the appointment as full-time professor of ophthalmology in Johns Hopkins Medical School, Baltimore, and as ophthalmologist in chief of the Wilmer Eye Institute, which will be established at the Johns Hopkins Hospital.——Dr. Frederick H. Baetjer, a member of the staff of Johns Hopkins Hospital and Medical School, underwent an operation last week for the removal of an infected finger, which had been burned in roentgen-ray work. Roentgen-ray injuries have caused Dr. Baetjer to lose eight fingers and an eye.——

Dr. May Thorne, of the Royal Free Hospital for Women, London, is visiting in Baltimore in the interest of the Washington Ward of that hospital, in which Americans in England are interested. More than $6,000 has been obtained by Dr. Thorne for the ward since her arrival in this country.

MASSACHUSETTS

Hospital News.—Drs. W. S. Prior, R. W. French, F. W. Gay, F. A. Hodgdon, C. C. Burpee and J. J. Corbett, constituting the staff of the Malden Hospital, Malden, have resigned.

Registration Restored.—The board of registration in medicine, February 26, rescinded its vote of February 12, whereby the registration of Dr. Thomas W. Leavitt, Malden, was suspended for six months.

Drunken Motorists Must Be Jailed.—The house of representatives, March 19, passed a bill providing a mandatory jail sentence for the second offense in cases of conviction for driving an automobile while under the influence of liquor. The vote was 134 to 42.

Funds to Increase Salaries.—The sum of $765,108 has been bequeathed to Harvard University, Boston, under the will of Mrs. Anna Milton "to be used for increasing salaries of professors and instructors."——Under the will of William Wellington of Boston a bequest of $50,000 has been made to Harvard Medical School for research in the etiology and therapeutics of diseases of men.

Society News.—Drs. Percival Bailey and Harvey Cushing addressed the Harvard Medical Society, March 24, at the Peter Bent Brigham Hospital, Boston, on "Cytologic Classification of Gliomata and Its Prognostic Significance."——Drs. Paul Emerson and Hyman Green addressed the New England Heart Association at the Peter Bent Brigham Hospital, March 19, on "A Clinical Study of 203 Cases of Malformations of the Heart."

National Health Association Fails.—The Worcester office of the National Health Association closed its doors, March 16, on account of financial difficulties. The manager announced, it is reported, that all offices of the association would suspend business before the end of the week. The Worcester office at one time had 7,000 subscribers. Recently, according to press reports, men prominent in the association have been arrested on charges of larceny.

MICHIGAN

Society News.—Dr. George C. Mosher, Kansas City, Mo., and formerly professor and head of the department of obstetrics and gynecology, University of Kansas School of Medicine, Rosedale, Kan., will address the Wayne County Medical Society, Detroit, April 6, on "Problems in Maternal Welfare."

MISSOURI

Sale of Impounded Dogs.—The supreme court of Missouri has upheld the St. Louis ordinance that gives the city the right to sell impounded dogs, not claimed by their owners, to reputable medical schools for scientific purposes. The Humane Society of St. Louis brought suit to restrain the city from enforcing the ordinance. The circuit court denied the restraining order, and the case was appealed.

Society News.—The Kansas City Academy of Medicine, at a recent meeting at the General Hospital, elected Dr. Ralph H. Major, president; Dr. Michael J. Owens, vice president, and Dr. Frank R. Teachenor, secretary.—— Dr. Ernst F. Muller, University of Hamburg, Germany, addressed the St. Louis Medical Society, March 31, on "The Action of Nonspecific Protein Therapy by Way of the Involuntary System."

State Board Resignations and Appointments.—The president of the state board of health announced, March 25, that Dr. Thomas A. Son, Bonne Terre, and Dr. Ethan E. Brunner, Carrollton, both members of the state board of health, had tendered their resignations for immediate action. Dr. Son has been a member of the board for twelve years and Dr. Brunner for four years. To fill these vacancies the governor has appointed Dr. Homer L. Kerr, Crane, and Dr. Herman S. Gove, Linn.

Dr. Briggs Resigns.—Following the revocation of his license by the state board of health, March 20, for being a party to the sale of medical diplomas and the falsification of records of applicants for examination to obtain a license to practice medicine in Missouri, Dr. Waldo Briggs, dean of the St. Louis College of Physicians and Surgeons, St. Louis, resigned from membership in the St. Louis Medical Society, March 23, and notified the state board of health that he was ready to confer with the board with the view of reorganizing his institution as a reputable medical school.

State Board Enjoined in Dr. McGrew's Case.—Judge Miller granted Dr. Clara W. McGrew, St. Louis, a temporary injunction, March 26, preventing a hearing by the state board of health to show cause why her license should not be revoked. The secretary of the board stated, it is reported, that Dr. McGrew offered, January 30, to surrender her license to avoid publicity if promised immunity. The president stated that the board would seek a writ of prohibition in the supreme court to prevent enforcement of the injunction and that the decision of Judge Miller would not influence the board in the fifty-six other revocation proceedings now pending.

MONTANA

Hospital News.—Dr. Herbert D. Kistler, Butte, has been appointed executive head of Murray Hospital to succeed the late Dr. Donald Campbell.

Society News.—Dr. Anton J. Carlson, professor of physiology at the University of Chicago, en route to Portland to deliver the Jones Memorial lectures, spent Saturday, March 21, as a guest of the Deer Lodge County Medical Society, Anaconda. At a banquet, Dr. Carlson addressed the society on "The Newer Developments of Physiology and Medicine."

NEBRASKA

Personal.—The Medical Women's Club, Lincoln, gave a complimentary dinner, March 19, to Dr. Katherine H. K. Wolfe, in recognition of her seven years' service in the health department of the public schools.

NEW JERSEY

Hospital News.—The Holy Name Hospital, Teaneck, now under construction, was damaged by fire, March 24. The building was to have been opened this summer. The concrete floor of the maternity ward collapsed.

Industrial Accidents. — The Workmen's Compensation Bureau announces that a total of $2,563,046 was paid out in compensation for accidents to persons in industrial pursuits in New Jersey by the bureau during the six months from July 1 to Dec. 31, 1924. Fatalities in accidents involving compensation numbered 178, and there were 26,417 nonfatal accidents.

NEW YORK

"College President" Arrested.—Daniel D. Cimmerer, president of the Buffalo Chiropractic School, was fined $25 in the municipal court, March 20, for violating the state education law by using the name "college" in connection with the institution. Although not registered with the state board of regents, it was alleged that the heads of the school conferred degrees and issued diplomas.

Dr. Harris Exonerated.—Last week THE JOURNAL noted that Dr. Albert J. Harris, Buffalo, had been arrested by federal agents on a charge of violating the Harrison Narcotic Law, and that the Erie County Medical Society voted to support Dr. Harris. He has been exonerated. The U. S. commissioner stated that there was no evidence to show that he had violated the law.

Assembly Bars Chiropractors.—At midnight, March 25, the assembly moved to consider three bills pertaining to chiropractors. The Dunmore bill, which its sponsor says "will put the chiropractors out of business," was passed. The assembly then voted to put aside the Edmond bill, which would permit chiropractors to practice, then killed the Jenks bill, which would have compelled chiropractors to pass an examination before being licensed.

National Child Health Day.—Dr. Frank J. Monaghan, health commissioner, has announced the appointment of a committee to aid in the plans prepared for the celebration of National Child Health Day, May 1. Neighborhood houses, health centers and child welfare organizations will be asked to organize health programs for their particular districts. Schools will take part, and the larger department stores will have child health window exhibits.

The Alien Insane.—The state of New York contains about 10.7 per cent. of the white population of the United States, and 16.7 per cent. of the insane in institutions in the United States. Dr. Spencer L. Dawes, chairman, Interstate Con-

ference on Immigration, says that 27.2 per cent. of New York's population is foreign born, and that 43.1 per cent. of the inmates of state institutions for the insane come from this class. There are in New York more than 41,000 insane in public institutions, and of these more than 25 per cent. are aliens and 43.1 per cent. foreign born. In other words, Dr. Dawes continues, the state is supporting more than 10,000 noncitizens, most of whom should never have been admitted to the United States.

Telegram to County Societies.—In view of conflicting reports concerning the attitude of the state medical society toward various cults, at a recent legislative hearing in Albany, the committee on legislation sent a telegram, March 9, to each county legislative chairman. It read:

> Disregard garbled newspaper reports of action by state medical society or any one claiming to represent them. See vote house of delegates and vote of conference of chairmen. How could we or any representative of state society stoop to trade with cults? Far better in our opinion to stand by right principle in protection of public health even if defeated and then later put burden of change where it may belong. Personally, we hope county societies will not think of compromise. Medical society should stand by majority of sound thinking people to keep standards at highest point. If legislature passes act of lowering standards each legislator is then responsible to his local constituency, and doctors are absolved by having stood for highest moral economic and scientific principles.

Society News.—The annual meeting of the New York State Committee on Tuberculosis and Public Health of the State Charities Association will be held, May 8, at the Hotel Biltmore, New York.——At the annual meeting of the Medical Society of the State of New York, Syracuse, May 12-14, among others, there will be a symposium on "Mind and Medicine," by Drs. Charles M. Campbell, Cambridge; Lewellys F. Barker, Baltimore, and Austen F. Riggs, Stockbridge, Mass., the discussion being opened by Dr. George Draper, New York; and a symposium on "The Problem of the Chronic Cardiac Cripple," by Dr. James B. Herrick, Chicago; Louis I. Dublin, Ph.D., New York; Dr. Homer F. Swift, New York, and Dr. John H. Wyckoff, Jr., New York, the discussion being opened by Dr. Haven Emerson.

Council Orders Referendum.—The council of the New York State Medical Society voted to conduct a referendum of the house of delegates to obtain the opinion of the society on the Karle-Dunmore bill, on which a hearing was to be held in Albany. This bill amends the medical practice act, requiring the annual registration of physicians, curtailing improper medical advertisements, simplifying the procedure for revocation and annulment of registration of physicians and providing for the prosecution of illegal practitioners. The question submitted in the referendum was as follows:

> The Medical Society of the State of New York hereby endorses the said Karle and Dunmore bills and urges their passage by the legislature. Vote yes or no by marking X in blank space. Vote and return at once to the secretary. By order of the council, Dr. Edward L. Hunt, secretary.

Summary of Goiter Prevention with Iodin.—*Health News* reports that the secretary of the New York State Bureau of Municipal Information has made public the results of a questionnaire sent to health officers of cities in the state on the prevention of simple goiter. Replies were received from forty-four cities. Rochester formerly treated the city water with iodin but has discontinued the practice; Oswego is planning to undertake this type of goiter prevention; tablets containing iodin have been distributed to the school children of Ithaca, North Tonawanda, Syracuse, Watertown and Cortland; in Buffalo, circulars have been distributed advising the use of iodin, and similar information is being given in Rochester. In no city, according to the report, has work been carried on long enough to give tangible results.——The health officer of Lockport has prepared a small circular, addressed to parents, urging the use of iodized salt.

New York City

Annual Dinner.—The Camp Merritt Base Hospital Officers Association will hold their annual dinner, Saturday, April 18, at 7 p. m., at the Princeton Club of New York, Thirty-Ninth Street and Park Avenue. Dr. Walter B. Mount, Montclair, N. J., is secretary.

Chiropractor Held. — Joseph Miller, chiropractor, was recently held under $500 bail for practicing medicine without a license. Evidence submitted before the court of special sessions showed that the defendant had diagnosed pulmonary tuberculosis as acidity of the stomach.

Clinic for Speech Defects.—A clinic for the correction of speech defects has been established in the Washington Square Building of New York University. It will be in charge of the university's department in public speaking, and will undertake to treat all speech defects of whatever origin, from a provincial accent to serious cases of neurotic type and those requiring surgical intervention. The clinic will be open Fridays from 6 to 8 p. m.

Exhibition of Anatomic Books.—An exhibition of early anatomic books was opened at the Grolier Club, March 19, by the president, W. B. O. Field, and by Dr. Samuel W. Lambert, who introduced the guest of the evening, Lieut. Col. Fielding H. Garrison, M. C., U. S. Army. Dr. Garrison said that the collection of pre-Vesalian and Vesalian items surpassed anything of the kind he had seen in variety and extent. The exhibition is open to the public daily, without charge, from 10 to 6 at 47 East Sixtieth Street.

Physicians to Study with Undergraduates.—The Columbia University School of Medicine announces that the clinical lectures of the third and fourth year hereafter will be open to the general medical profession. These lectures are given at 437 West Fifty-Ninth Street by Dr. John A. Fordyce in dermatology and syphilology; Dr. Herbert B. Wilcox on diseases of children; Drs. Frederick Tilney, Louis Casamajor and others on neurology; Dr. Arnold Knapp on ophthalmology, and Dr. Thomas W. Salmon and others in psychiatry.

Committee on Illegal Practice.—The Kings County Medical Society has sent a notice to every practicing physician in Brooklyn requesting cooperation in a movement to rid Brooklyn of quacks, and asking for the name and address on signs on which the word "doctor" or its abbreviation appears, except with the names of those who are known to be licensed practitioners. Each person reported will be investigated, and if found to be a quack, the name will be turned over to the district attorney for prosecution. Communications should be sent to the Committee on Illegal Practice, 1313 Bedford Avenue.

Typhoid Fever in New York City.—Dr. Louis I. Harris, New York Health Department, in the *Weekly Bulletin*, states that the typhoid fever outbreak in New York City, which began late in 1924, did not cease until February 15, 1925. A total of 798 cases were reported, as compared with 235 during the corresponding period of the previous winter. Of the cases reported in this quarter, 111 were residents of New York City who contracted the disease while out of town, and fifty-five cases were nonresidents who were brought into the city for hospital care, or who acquired their infection before they arrived in the city. In 75 per cent. of the cases, the diagnosis was confirmed by laboratory evidence. There were eighty-three deaths during the period, a case fatality rate of 10.4 per cent. In 57 per cent. of the cases, the source of infection was definitely determined. Of 798 cases reported, 427 cases were traced to oysters or clams.

Approved Laboratories.—The Medical Society of the County of New York passed resolutions in 1923 recommending that support of commercial laboratories be withdrawn; it will grant now a certificate of approval to directors of laboratories which comply with requirements. Each director applying for approval should be a licensed physician and should file an application blank supplied by the committee, a license from New York City Department of Health, approval from the state department of health and a permit to handle pathogenic organisms from the state department of health. It is expected that physicians conducting clinical laboratories conform to the general standards and code of ethics of the medical profession, which prohibit discounts, rebates, commissions, bonuses or any other division of fees and the contract form of practice. Display advertisements of laboratories frequently seen in periodicals and circulars will be discouraged.

NORTH CAROLINA

Bills That Failed.—A bill to restrict the sale of medicines containing narcotics in any quantity whatever was defeated last week in the senate.——A bill authorizing county commissioners to revoke the licenses of physicians for gross immorality passed the house but was defeated in the senate.

Personal.—Dr. Hamilton W. McKay of the Crowell Clinic, Charlotte, has been appointed a director of the Mecklenburg Industrial Home.——Dr. Cola Castelloe, Aulnader, has resigned his commission in the U. S. Navy, where he has been on duty since the beginning of the World War, and will locate for practice in Ahoskie.

Appeal for Funds.—The board of managers, Good Samaritan Hospital, Charlotte, the only hospital exclusively for colored people, in a large section of the state, announces the completion of additions, which increase its bed capacity from

thirty to sixty beds, and asks the community for $6,000 for furnishings. This institution, established and controlled by white citizens, has functioned for thirty years, and this is its first appeal to the community for funds.

County Society Condemns Illegal Narcotics.—At the regular meeting of the Gaston County Medical Society, Gastonia, March 4, the following resolution was passed, it is reported, and a copy was sent to the local federal narcotic agent:

WHEREAS, It appears that Drs. Memory F. Boyles, A. V. Boyles and Frank V. Taylor have been charged with and are now under indictment for violating the Narcotic Law of the United States; and

WHEREAS, The members of the Gaston County Medical Society severely condemn the illegal handling of narcotics; therefore, be it

Resolved, That the Gaston County Medical Society in regular convention assembled, do hereby severely condemn the illegal handling of narcotics, or "dope" by any one.

Resolved, That we do respectfully ask that any one convicted of a violation of this, the narcotic law, be dealt with so severely that the nefarious and illegal handling of such drugs be entirely broken up.

OKLAHOMA

Hospital News.—The Sisters of St. Joseph have signed a contract with the chamber of commerce to operate the Ponca City Hospital, their services being donated to the city.

Personal.—Dr. William D. Atkins, Holdenville, for ten years superintendent of public health of Hughes County, has again been reappointed by the state health commissioner.

OREGON

Bill to Label Caustics.—In accordance with data furnished by the American Medical Association, the legislature recently passed a bill regulating the sale of caustic poisons.

Society News.—The Pacific Northwest Medical Association will convene at Portland, June 29-July 1. The University of Oregon Medical School will sponsor the scientific exhibit, and various physicians throughout the Northwest also will show exhibits. Among those who have accepted invitations to speak are Dr. George N. Stewart, professor of experimental medicine, Western Reserve University Medical Department, Cleveland; Sir Henry M. Gray, Montreal; Dr. William McKim Marriott, St. Louis; Dr. Alan N. Drury, University College Hospital Medical School, London; Dr. James B. Herrick, Chicago; Dr. Lewellys F. Barker, Baltimore; Dr. Barney Brooks, St. Louis; Dr. Reginald Fitz, Boston, and Dr. Henry W. F. Woltman, Rochester, Minn.

PENNSYLVANIA

Personal.—Dr. George A. Reed, Erie, has been reappointed to the board of health for a five year term.

The Bedford Lecture.—Dr. Daniel J. McCarthy, professor of medical jurisprudence, University of Pennsylvania School of Medicine, Philadelphia, will deliver the Bedford Lecture of the Pittsburgh College of Physicians, April 24, on "The Development of Medical Jurisprudence." Physicians are cordially invited.

Philadelphia

Samuel D. Gross Prize Awarded.—This prize of the Philadelphia Academy of Surgery for 1925, amounting to $1,500, has been awarded to Dr. John Alexander, Ann Arbor, for his essay entitled "History, Present Practice and Proposed Reform of the Surgical Management of Pulmonary Tuberculosis."

TEXAS

Dr. Graves Resigns.—The dean of the University of Texas, Department of Medicine, Galveston, announces that Dr. Marvin L. Graves, professor of medicine and lecturer on mental and nervous diseases, has tendered his resignation, effective August 31. Dr. Graves, who has served the university more than twenty years, will make his home in Houston.

Psychopathic Hospitals.—The house of representatives recently adopted, by a vote of 70 to 30, the Wallace eleemosynary bill, which would establish two psychopathic hospitals for the treatment of the curable insane, one at the medical department of the University of Texas at Galveston, and the other at Baylor Medical College, Dallas, and providing that the directors of these institutions shall each receive $7,500 a year.

Personal.—Dr. Henkle Garst, Austin, director, bureau of child hygiene, state department of health, has been appointed director of the health unit that has been established in Nueces County by the state in cooperation with the Rockefeller Foundation.——Dr. Thomas B. Taylor, Bastrop, has been appointed county health officer to succeed Dr. Henry B. Combs, who resigned after six years' service.——Dr. Gavin Watson, Clarksville, has been appointed health officer of Red River County.

VIRGINIA

Chiropractor Fined.—W. H. McChesney, Norfolk, chiropractor, was recently found guilty of practicing without a license and fined $200 and costs, it is reported.

WASHINGTON

Society News.—At the meeting of the Spokane County Medical Society, Spokane, recently, Dr. Ernest F. Flehme addressed the society on "Endemic Syphilis."——Dr. Frederick Epplem, Spokane, recently addressed the King County Medical Society, Seattle, on "Therapeutic Use of Digitalis."

Starvation Specialist Arrested.—*Northwest Medicine* notes that Linda B. Hazzard, who was convicted of second degree murder in 1911, in the Kitsap superior court, for starving a patient to death under her treatment, was recently arrested for practicing without a license. A patient on the verge of death from starvation was rescued. She served a portion of her former sentence and was paroled in 1915 on condition that she leave the state. Although refused a pardon, she again opened a sanatorium in Kitsap County and resumed her practice of starvation treatment.

WISCONSIN

Personal.—Dr. Ira F. Thompson, deputy health commissioner of Milwaukee, has tendered his resignation, effective May 1, in order to become supervisor of the health demonstration with the Milbank Foundation, Syracuse, N. Y., of which Dr. George C. Ruhland, formerly health commissioner of Milwaukee, is director.

Complaints Filed.—At the request of the secretary, Wisconsin State Board of Medical Examiners, a complaint has been filed in the circuit court against Dr. Emil C. Schoene, Milwaukee, charging him with performing an illegal operation, Sept. 28, 1921; and against Dr. Frank R. Wright, West Allis, charging him with performing an illegal operation, March 30, 1921.

GENERAL

Malignant Smallpox Focus.—During January the type of smallpox which has been present in Minnesota for the last year spread to at least three other states, eight cases with two deaths occurring in Wisconsin, an outbreak in Iowa and another in North Dakota, all of which were traceable to the outbreak in Minnesota, where during January there were 346 cases with ninety-nine deaths.

New Cancer Film.—The American Society for the Control of Cancer has released a new moving picture, "A Fortunate Accident," which was first shown, February 10, before the St. Louis Medical Society. The picture is intended for popular audiences. It is one reel in length and can be purchased from the American Society for the Control of Cancer, 370 Seventh Avenue, New York, for $60.

Professor Kraepelin on Study Tour.—Prof. E. Kraepelin, director of the Munich Research Institute for Mental Diseases, and Prof. F. Plaut, director of the serologic department of that institute, have arrived in the United States to study the psychoses of the negro and American Indian from the standpoint of comparative psychiatry. They will spend some time at St. Elizabeth's, the government hospital in Washington.

Survey of Federal Public Health Activities.—Under the auspices of the Institute for Government Research, Washington, D. C., James A. Tobey, recently administrative secretary, National Health Council, is conducting a survey of the public health activities of the U. S. government. Preliminary studies show there are at least twenty-six bureaus or other branches of the government interested in some phase of public health.

Insurance Without Physical Examination.—The Prudential Insurance Company announces that on account of the extended expectation of life, it is now considering applications without medical examination for additional ordinary insurance on the life of any policyholder up to and including 45 years of age, on whose life an ordinary policy has been issued at standard rates with full medical examination in the twelve months prior to the application for new insurance.

Drs. Crile and Mayo Honored.—Drs. George W. Crile, Cleveland, and Charles H. Mayo, Rochester, Minn., have received the honorary degree of master of surgery from Dublin (Ireland) University. Dr. Crile, who served in France during the World War, has also received honorary degrees from the Royal College of Surgeons of Ireland, and the Royal Society of Medicine of London. Dr. Mayo is a fellow of the Royal College of Surgeons of both Ireland and England.

Exposition of Chemical Industries.—Arthur D. Little, Boston, a former president of the American Chemical Society, has been elected chairman of the advisory committee of the Exposition of Chemical Industries, which will be held at the Grand Central Palace, New York, September 28-October 3, to succeed Charles H. Herty, resigned. A feature of the exposition will be the Court of Achievement, in which will be shown products of chemical development during the last few years.

The Engineering Foundation.—This foundation is cooperating at present with the National Research Council and the research committees of various engineering societies. It has appointed 190 leading engineers, representing public service, industry and education, in twenty-seven cities as local representatives, who will work with the foundation board on a nation-wide plan "to further research in science and engineering or to advance in other manner the profession of engineering and the good of mankind." The foundation work will be carried on with $500,000 provided by Ambrose Swasey, Cleveland; $50,000 from the estate of Henry R. Towne, and contributions from industry and other sources which aggregate more than $100,000.

Society News.—The annual meeting of the National Association for the Study of Epilepsy will be held in Richmond, Va., May 11-12, preceding the sessions of the American Psychiatric Association.——At the recent annual meeting of the American Congress on Internal Medicine, Washington, D. C., Dr. Charles G. Jennings, Detroit, was elected president; Drs. Marvin L. Graves, Galveston, Texas, and George S. Strathy, Toronto, vice presidents; Dr. Clement R. Jones, Pittsburgh, treasurer, and Dr. Frank Smithies, Chicago, secretary-general.——The officers of the American College of Physicians elected, March 13, are: Dr. Alfred Stengel, Philadelphia, president; Drs. Aldred S. Warthin, Ann Arbor, Mich., Charles F. Martin, Montreal, and Stewart R. Roberts, Atlanta, Ga., vice presidents; Dr. Clement R. Jones, Pittsburgh, treasurer, and Dr. Frank Smithies, Chicago, secretary-general.——The National Academy of Sciences will hold its sixty-first annual meeting at the National Academy Building, Washington, D. C., April 27-29.

International Exchange of Health Officers.—Surgeon General Cumming, U. S. Public Service, cooperating with state and city health officers, has arranged the itinerary of the International Interchange of Health Officials, a movement carried out under the auspices of the health section of the League of Nations. The present interchange consists entirely of delegates from Latin American countries. The first stop was made in Louisiana, visiting among other places the national leprosarium at Carville. In Mississippi particular attention will be paid to full-time county health units, and in Alabama to demonstrations in malaria, typhoid fever and hookworm control. The party will arrive in Washington, April 6, to study federal health administration, then proceed to Maryland, April 13, visiting the state health officer in Baltimore and observing methods of teaching public health at Johns Hopkins University Medical School. The ten days in New York will be given to the study of municipal sanitation, laboratory methods, hospitals, quarantine methods and immigration laws. The party is in charge of Dr. Louis Destouches of the health committee of the League of Nations.

American Birth Control League Seeks Aid of Physicians.—For years the American Birth Control League has attempted to enlist the aid of outstanding men in the medical profession. The half dozen who responded were, however, never those best qualified to give counsel in the technical problems involved. As with the Holland Nieuw Malthusian Band and the two English clinics, names of gynecologists and obstetricians have been conspicuous by their absence. The league has now formally offered to place its medical activities under the supervision of representative medical organizations. The medical director of the league appeared, March 2, before the public health committee of the New York Academy of Medicine. A subcommittee appointed to study the matter is made up of a censor of the county medical society; the chairman of the committee on birth regulation of the New York Obstetrical Society, and the secretary of the committee on maternal health. This committee is actively at work. Mrs. Margaret Sanger states that she has 50,000 medical inquiries a year from the laity and that 5,000 physicians have requested information. The medical profession is, therefore, confronted with the alternative of taking steps to see that these letters are answered wisely and adequately, or else officially to shirk this responsibility. The "clinical research" carried on by the league covers physical examination and advice to about 1,500 women a year, who are said to require aid "to cure or prevent disease," as sanctioned by law. Until it becomes generally known that several of the best outpatient departments in the cities have undertaken to give advice for contraception and sterilization to patients with a legitimate need, it is evident that a special clinic is required. Such a clinic should be under a state board of charities, must have a personnel and equipment adequate for diagnosis, treatment and research, and requires an advisory board of gynecologists, obstetricians and others made up of physicians of recognized authority to guide its policies and regularly inspect its activities and follow-up and endorse any statements released for publication. Thus negotiations are under way for mutually acceptable cooperation.

CANADA

Smallpox at Vancouver.—Appreciation and approval of the quarantine regulations of the U. S. Public Health Service, in connection with the smallpox epidemic at Vancouver, B. C., have been expressed by Dr. H. E. Young, provincial health officer of British Columbia. At the beginning of the epidemic a report of conditions was telegraphed to the U. S. Public Health Service at Washington by Acting Assistant Surgeon H. R. Storrs, located at Vancouver. His report showed that the epidemic was general, and prevalent particularly among women and school children. Apparently Canadian male adults were protected because of war time vaccination. The U. S. Public Health Service issued instructions to Senior Surgeon S. H. Magruder at Seattle that all persons coming from Vancouver to the United States be required promptly to be vaccinated. This regulation met with the approval and support of Dr. Young, the Canadian provincial health officer. It was an important factor in his effort to control the epidemic situation at Vancouver. The latest reports received by the U. S. Public Health Service at Washington indicate that the number of smallpox cases under treatment in Vancouver hospitals now amounts to eighty, and that more than seventeen cases have been discharged from the hospitals.

LATIN AMERICA

Personal.—The new chief of the public health service in Mexico is Dr. Rosendo Amor, professor in the medical school, and president of the Mexican Medical Association.——In the recent election in Nicaragua, Dr. Juan B. Sacasa, a graduate of the University of Pennsylvania, was elected vice president of the republic.——Dr. Luis M. Cueva has returned to his home in Ecuador after several years service as secretary of the Ecuador legation in France.——Dr. Nicholas León has resigned the chair of anthropology, Mexico City. He has recently been elected corresponding member of the Academia de Medicina at Madrid.

School for Sanitary Inspectors.—A new school for sanitary inspectors was recently established in San José, Costa Rica. The course covers two years, including work in anatomy, physiology, public health, laboratory work, rudiments of parasitology and veterinary science, sanitary legislation and the etiology of transmissible diseases. Persons between 18 and 50 years of age may enter the school, but those not having a bachelor of humanities degree and those not normal school graduates will not be licensed as sanitary inspectors until they are 20 years old. Sanitary inspectors are paid from government or municipal funds.

FOREIGN

School to Train Public Health Workers in Spain.—A royal decree of recent date creates a national school at Madrid to train engineers, architects, physicians, pharmacists and veterinarians in public hygiene and sanitation, besides giving courses for preparing public health officers in general. The school will be connected with the Alfonso XIII National Hygiene Institute and Hospital.

Prize for Prevention of Death in Childbirth.—The first award of the Nichols prize of the Royal Society of Medicine

was made to Dr. George Geddes of Heywood, Lancs, for his essay entitled "Causation, Prevention and Treatment of Puerperal Septicemia." In accordance with the will of the late Dr. Robert T. Nichols, the Royal Society of Medicine offers, every three years, a prize of £250 for the most valuable contribution on this subject. It is open to any British subject.

Quacks Penalized in Germany.—The Hamburg court imposed a fine of 2,000 marks on a quack because his diagnosis and treatment had prevented proper treatment of a cancer. The Berlin court imposed a year's prison term on another quack on the same grounds after the death of the patient. The Charlottenburg court imposed also a fine on a quack who gave consultations and recommended treatment without charge to persons who paid to hear his lecture.

International Congress on History of Medicine.—The official program of the fifth International Congress on the History of Medicine, to convene at Geneva, July 20-25, this year, opens with an address by Dr. E. Pittard, Geneva, on "Medical Operations in the Stone Age," and concludes with a paper by Dr. J. W. Courtney on "Benjamin Waterhouse, M.D., American Pioneer." Dr. C. G. Cumston is to preside, and a number of excursions and entertainments are scheduled. Dr. Cumston also presents papers on "Canadelle and His Work on the Plague," and "A Medical Congress at Rome in 1681." Among the other speakers, Dr. F. Crookshank will present the "History of Diagnosis in Medicine."

Convention of Ophthalmologists.—The Ophthalmological Society of the United Kingdom will hold a convention of English-speaking ophthalmological societies in London, July 14-17. Invitations have been sent to such societies in the British Empire and the United States. A reception will be given, July 13, at the Royal College of Surgeons, England. The Bowman lecture will be delivered by Sir John Parsons. There will be a symposium on "The Evolution of Binocular Vision," by Sir Charles S. Sherrington, Sir Arthur Keith, Sir Frederick W. Mott and Profs. Elliot Smith and Samuel E. Whitnall. At a general meeting the reestablishment of international ophthalmologic conferences on a prewar basis will be considered. Every member of the convention will receive a copy of its transactions.

Leprosy Advisory Committee.—This committee appointed by the government of South Africa held its first meeting at Pretoria, recently, the minister of public health, Dr. D. F. Malan, welcoming the members. He pointed out that leprosy was one of the most important health problems in South Africa, and that the government is spending nearly as much on leprosy as on all other communicable diseases and health work combined. The committee resolved that the government should make every effort to reduce the cost of institutional segregation of lepers, and that a part of the money thus saved should be devoted to research in leprosy and to improving the medical treatment. The committee resolved, also, that a medical officer should be appointed to complete the leprosy survey of the union and to act as liaison officer between the various leper institutions.

Deaths in Other Countries

Dr. **George Sigerson,** litterateur and formerly professor of biology, Catholic University Medical School, Dublin, at Dublin, February 18.——Dr. **E. MacDowel Coagrave,** formerly president Royal College of Physicians of Ireland, at Dublin, February 18, aged 78.—Dr. **Joseph A. Ormerod,** London, consulting physician to St. Bartholomew's Hospital and the National Hospital for Paralysis and Epilepsy, and registrar of the Royal College of Physicians of London, recently, aged 76.——Prof. **Viktor Ebner-Rofenstein,** histologist and anatomist, March 21, at Vienna, aged 83.——Dr. **Morin,** Leysin, president of the Union internationale contre la tuberculose. ——Prof. **M. Breton,** of the chair of bacteriology at Lille, a co-worker with Calmette on tuberculosis and immunity, aged 49.—— Dr. **Victor Jacques,** professor emeritus of materia medica and hygiene at Brussels, author, and authority on prehistoric and modern anthropology.

CORRECTION

Annual Summary of Deaths from Typhoid Fever.—Owing to a misinterpretation of the form in which the typhoid deaths in Memphis were reported, the calculated typhoid rate for 1924 should be 34.2 instead of 41.2 (THE JOURNAL, March 14, p. 814). The relative typhoid standing of Memphis among cities in its district is not altered by this correction.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 21, 1925.

The Professor of Physic at Cambridge

The king has approved that Sir Humphry Davy Rolleston, Bt., K.C.B., M.D., be appointed regius professor of physic in the University of Cambridge, in the room of the Right Hon. Sir Thomas Clifford Allbutt, deceased. Sir Humphry is the eldest son of George Rolleston, M.D., F.R.S., Linacre professor at Oxford, by his marriage to Grace, niece of Sir Humphry Davy. He was joint editor with the late Sir Clifford Allbutt of the second edition of "A System of Medicine." Educated at Marlborough, St. John's College, Cambridge, and St. Bartholomew's Hospital, Sir Humphry has had a career of distinction and gave important service in the Great War, in which he was chief medical consultant for the navy. He is president of the Royal College of Physicians, emeritus physician to St. George's Hospital, and consultant physician to the royal navy. He is a learned and prolific writer. Among his works, the most important is "Diseases of the Liver, Gallbladder and Bile Ducts," which reached a second edition in 1912. He edited the English edition of Nothnagel's "Diseases of the Intestines and Peritoneum."

"Summer Time" to Be Made Permanent

For the last eight years this country has enjoyed the advantages of "summer time," which means that during the summer months the clock is put forward an hour and all the usual business hours are kept as before. The result is that people get up an hour earlier in the morning and have an hour more of daylight. The bill for this purpose has previously been only for the year. A bill making "summer time" permanent has now been read a second time in the House of Commons and obtained a large majority. It provides for "summer time," to begin on the Sunday following the first Saturday in April and to end on the Sunday following the first Saturday in October. Speaking in favor of the bill, Dr. Graham Little (the dermatologist) said that at the request of the medical members of his constituency and as a physician he supported the fullest application of the bill. The opposition came largely from agriculturalists, who were in the fortunate position of spending all their lives in the fresh air, and hardly realized how selfish their action was in endeavoring to deny some little opportunity to others. We were on the eve of great extensions of knowledge of the properties of sunlight. At the light departments of the London hospitals, the transformation could be seen of a wreck of humanity into a reasonably healthy person as the mere result of sitting for half an hour three times a week in front of a very feeble imitation of sunlight which came from a carbon arc lamp. The advantages of sunlight and fresh air would be immeasurably increased for large numbers of people by the bill. He wished another beneficent change might accrue in the way of wearing less clothes in sunlight.

The British Journal of Venereal Diseases

A new periodical, the *British Journal of Venereal Diseases,* has appeared. Though there was in this country previously no journal devoted entirely to venereal diseases, the *British Journal of Dermatology and Syphilis* (the official organ of the British Association of Dermatology and Syphilology), as its name shows, has since 1917 included in purview the most important of the venereal diseases. However, many specialists in venereal diseases are not dermatologists, and hence their desire to have a journal of their own. The new

journal, which is the organ of the Medical Society for the Study of Venereal Diseases, is a quarterly, to which the annual subscription is $5 and is published by Constable & Co., Orange Street, Leicester Square, London, W. C., 2. Its object is to enable the worker in venereal diseases to keep abreast with progress in his own and allied subjects. Of the original articles, some will appeal essentially to the specialist, in either the laboratory or the clinic, while others will endeavor to help the general practitioner in the study of venereal diseases. Critical reviews will deal regularly with the world's periodical literature on syphilis, gonorrhea and allied subjects. The editors are Col. L. W. Harrison, special medical officer for venereal diseases to the ministry of health, and director of the venereal department of St. Thomas' Hospital, and E. R. T. Clarkson, clinical assistant of the venereal department of the West London Hospital. There are also sectional editors for syphilis, gonorrhea, pathology, neurology, biochemistry, dermatology, gynecology and pediatrics, urology, and sociology. The first number consists of seventy-three pages. It opens with an introduction by Sir Humphry D. Rolleston on the need for such a publication. The articles are as follows: "The Public Health Services and Venereal Diseases," by Col. L. W. Harrison; "Diathermy in Gonococcal Infection," by E. P. Cumberbatch and C. A. Robinson; "The Complement Fixation Reaction in Gonorrhea," by W. J. Tulloch; "Bismuth in Syphilis," by E. T. Burke; "The Pharmacology of Bismuth with Reference to the Treatment of Syphilis," by Svend Lombolt; "The Treatment of General Paralysis by Malarial Inoculation," by R. N. Ironside, and "Skin Affections Commonly Mistaken for Syphilis," by H. C. Semon.

The Troubles of the Panel

The panel system by no means works smoothly; it is always producing friction between the physicians and the representatives of the insured. Recently accusations were brought by the London Insurance Committee against two panel physicians. One was accused of gross negligence in the treatment of a case of appendicitis; the other, of the same offense in the treatment of a case of diphtheria. In the latter case it was represented by the committee that the physician should be removed from the panel for gross negligence in that he failed to take a swab of the patient's throat, and to diagnose diphtheria. The physician was called, April 5, to attend a youth, aged 19. He treated him for tonsillitis until April 30, when he certified that the youth was suffering from diphtheria. The youth was admitted to a hospital, where he died, May 5, from diphtheria and Vincent's angina. His mother stated that the physician was very attentive. The question of diphtheria was discussed, but the physician said, "It is not diphtheria." April 19, he said that the complaint was tonsillitis and quinsy. April 30, he decided to send the patient to the hospital, where he was found suffering from diphtheric paralysis. The medical officer of the hospital gave the following evidence: On admission of the patient he found diphtheric paralysis and formed the opinion that diphtheria had existed for approximately ten days. In a case of tonsillitis and quinsy, the coming of diphtheria would probably not be noticed; the latter might be masked by the former. Even an expert would hesitate about giving an opinion. The chances of the coming of diphtheria being observed by a general practitioner in such a case would be very remote. A case would not be admitted to a hospital unless it was actually certified to be diphtheria; it was not enough that some one suspected it. The physician concerned stated that he had been in practice thirty years, and was familiar with diphtheria in its early stages. Had he suspected diphtheria before April 30, he would have sent the patient to the hospital without waiting to take a swab. There was a white patch in the throat, but it disappeared not later than April 12. The next time he saw it, though he examined the throat constantly, was April 30. He was stunned when it reappeared, and at once made arrangements for admission to the hospital. At some stage in the illness of tonsillitis and quinsy, diphtheria must have supervened. In spite of his constant examination, he did not suspect diphtheria until April 30. When he saw symptoms of diphtheria, he acted at once, and, without waiting for swabs, sent the lad to a hospital. He still claimed that he was doing right in not taking a swab, according to his knowledge at the time. Both charges were heard by a committee appointed by the minister of health, and consisting of a lawyer and two physicians. This committee acquitted both physicians.

In the case of the physician charged with negligence in the treatment of a case of appendicitis, they deprecated the use of the word negligence at all, adding, "We would rather describe our criticism as connoting an error of judgment." In the diphtheria case they were even more emphatic. "We think," they wrote to the minister, "that the complainants (the London Insurance Committee) were not justified in making their representation and thus putting in motion the machinery which involved the inquiry. In pursuance of this view, we recommend that the complainants be ordered to pay to the respondent (the physician) his taxed costs of the inquiry." The minister of health accepted these conclusions, for he refused in both instances to remove the name of the physician from the panel list, and he also made an order that the insurance committee should pay the physician in the second case his taxed costs. Then, having, as it appeared, discharged both accused persons, he proceeded to fine the first $50 and the second $100. These fines were inflicted in a somewhat roundabout fashion. They were imposed, in the first instance, not on the physician but on the London Insurance Committee, his accuser, for "failure to provide a proper standard of medical treatment." But, as the minister reminded the committee, these sums "should, in accordance with Article 36 of the Medical Benefit Regulations, be recovered" from the physician in each case by deduction from his remuneration. By the showing of the court, the only crime of the first physician was an "error of judgment," while the second physician should not have been indicted at all.

These contradictory results have aroused much criticism in the profession. It is held that if a panel physician is acquitted of a charge, he should not be fined. The position of the minister of health appears to be that he is entitled to insist on a certain standard of medical treatment for panel patients, and that when this standard is not reached he is entitled to withhold part of the government grant from the insurance committee concerned and advise the committee to recover the amount from the physician whose treatment fell below "the proper standard." With regard to the diphtheria case, the minister wrote that, in his opinion, the physician, in omitting to take such steps "as were reasonably open to him to ascertain whether he was justified in his view that the case was not one of diphtheria," failed to take precautions which "any reasonably prudent physician would have taken." Dr. Alfred Cox, secretary of the British Medical Association, states that the association intends to take up the matter with the ministry. "In these two cases," he says, "the decision was an absolute surprise to those best acquainted with the machinery of the insurance act. For a court composed of an experienced lawyer and two independent physicians to say deliberately that there should have been no indictment of a physician, and for the ministry then to fine him, is inexplicable."

PARIS

(From Our Regular Correspondent)

March 10, 1925.

The Remote Future of Patients Treated in Sanatoriums

Limiting his inquiry to tuberculous patients, treated in the Bligny sanatorium between August, 1903, and August, 1913, whose sputum contained tubercle bacilli, Urbain Guinard, a medical assistant of the sanatorium, has published in the *Revue de phtisiologie médico-sociale* some interesting statistics bearing on the future of these patients after they leave the sanatorium. These statistics take account only of findings established after the lapse of twelve years. Of 813 observations, the cases were distributed as follows: number of deceased patients, 568, or 69.86 per cent.; number surviving, 158, or 19.43 per cent.; number not found, fifty-one, or 6.27 per cent.; number deceased but whose death year could not be established, so that there was a doubt as to whether or not they had survived twelve years, thirty-six, or 4.43 per cent. Of the deceased, 11 per cent. had died between the ages of 15 and 20, and 22 per cent. between the ages of 20 and 25, after which the percentages for the succeeding five-year age groups up to 50 diminished thus: 19, 13, 9, 4 and 3 per cent. Forty-seven per cent. of the patients became affected between the ages of 15 and 25; 35 per cent., between 25 and 35, and 17 per cent., between 35 and 50.

Of ninety patients in whose sputum tubercle bacilli were discovered only occasionally (possibly only once), forty-eight are still living. Of 283 patients in whose sputum tubercle bacilli were found repeatedly during their stay in the sanatorium, only eighteen are still living. These figures show that the disappearance of bacilli in the sputum is one of the most important factors supporting a favorable prognosis.

The statistics of Guinard deal with patients treated up to 1913 only; that is, at a time when artificial pneumothorax had not yet come into general use in France, and take account of the remote results of only sanatorium treatment. Without doubt, if pneumothorax treatment had been applied in season to the patients for whom it was indicated, the percentage of survivors after twelve years would have been very much higher.

Guinard concludes from the figures that he reports that most of the patients on leaving the sanatorium were compelled to go to work and that consequently the period of rest and after-treatment was cut short.

Arranging the figures according to the length of stay in the sanatorium, we find that of 576 patients presenting bacilli in the sputum the number of survivors at the end of twelve years was as follows: of those who had been from one to three months in a sanatorium, the number of survivors was 18 per cent.; six to nine months, 26 per cent.; twelve to eighteen months, 36 per cent., and if the stay had been prolonged to two years, 44 per cent. These figures should not lead to pessimistic conclusions. They should not be interpreted as evidencing the failure of sanatorium treatment. On the contrary, they show the efficacy of sanatorium treatment if it is sufficiently prolonged. Treatment sufficiently prolonged will not be possible until there are in France a sufficient number of special tuberculosis sanatoriums, which are now wofully lacking.

The Visit of Professor Jacobæus in Paris

Professor Jacobæus of Stockholm paid Paris a visit recently to demonstrate his technic of thoracoscopy, to divide the adhesions that are encountered in artificial pneumothorax. At the Faculté de médecine of Paris, Jacobæus delivered a noteworthy address, illustrated by lantern slides, and supplemented by a practical demonstration in the tuberculosis ward of the Laënnec hospital. Two patients from the service of Dr. E. Rist were operated on before a large audience. Professor Jacobæus' method may be said to constitute an excellent supplementary procedure in artificial pneumothorax presenting adhesions. Jacobæus was the first to conceive the idea of dividing these adhesions by galvanocautery inserted in the pleural cavity with the aid of a special trocar, the action of the instrument being guided by means of pleural endoscopy. In his hands this technic has given excellent results, and before the Faculté de médecine he presented a number of interesting roentgenograms showing how the collapse of the lung could be accomplished by dividing the adhesions that interfered. Temperature and weight curves were also introduced to prove the beneficent effect of the treatment. It is evident that only adhesions that prevent the collapse of the lung should be attacked, and then only in case there is no likelihood of being able to break them up by insufflations, even under increased pressure, which procedure is itself not devoid of danger.

In spite of the information secured through roentgenoscopy, the exact nature of them can never be determined in advance. Aside from the cases in which they are very evidently filamentous, there is always a chance that they may contain blood vessels or may include a cavitary diverticulum or a bronchial ramification. Hence the two dangers of the operation are hemorrhage and the causation of a pulmonary fistula.

The injection of iodized fat into the bronchi sometimes enables one to discover that the adhesions contain an air cavity. The technic of the operation is simple. Procain anesthesia is used. At some suitable point, usually in the dorsal region, a skin incision is made from 1 to 2 cm. in length for the introduction of a special trocar, which is about the size of the trocar used in ascites puncture. This trocar, when in place, serves as a guide to the endoscopic tube. The adhesions having been exactly located, the endoscope remaining in situ, a second incision in the wall, made under local anesthesia near by, provides an opening in the pleura for the insertion of a second trocar, similar to the first, which is to serve as a guide to a long galvanocautery and to direct and limit its action as indicated by the pleural endoscopy.

The Franco-Polish Medical Congress

The second Franco-Polish Medical Congress will be held in April under the auspices of the Franco-Polish Medical Society of Warsaw and the Franco-Polish Medical Committee of Paris, which is affiliated with the France-Poland Association. The first congress was to have been held in 1920, just at the time when Poland, but recently escaped from a slavery of 150 years' duration, again saw its political existence menaced. After the peril that threatened had been successfully warded off, the idea of a medical congress was again taken up, and the French physicians received in September, 1921, an enthusiastic welcome which they have not forgotten.

The French physicians are, therefore, preparing for their Polish confrères a reception that will give evidence of the ancient fraternal spirit. Dean Roger will preside at the congress, and many eminent men, among others, Babinski, Achard, Hartmann and Letulle, will be present. Following the congress, an excursion to Lyons, Vichy and Nancy will be undertaken. It is significant that Nancy owes its college of medicine to King Stanislas, and, on that account, the city is planning a special welcome for the Polish physicians which will recall the historic bonds that unite it with Poland. Strasbourg will then be visited. The French physicians are determined to do all in their power to leave in the minds of their Polish visitors memories of France that shall be in a measure equal to the impressions they brought back from Poland.

BELGIUM

(From Our Regular Correspondent)

March 9, 1925.

The Sanitary Situation in the Belgian Congo

In the *Presse médicale* Daniel and Martin have recently published a study on the ethnologic and sanitary situation in the Belgian colony on the Congo.

MEDICAL ORGANIZATION

The physicians in the service of the state are divided into two classes. In addition to the state medical officials, the large societies have likewise organized a public health service, administered by medical hygienists and resident or traveling physicians. The medical hygienists do not treat patients. The physicians termed "resident or traveling" are distributed throughout the country—supposedly one for each district—and they are entitled to develop a private patronage. The Union minière of Haut-Katanga, which employs from 700 to 800 white and from 10,000 to 12,000 black persons, has twelve physicians. This society has organized its medical service at great expense, and has established two hospitals for Europeans, one at Elizabethville, which is a modern institution (operating rooms, roentgenographic equipment, bacteriologic laboratories) with facilities for twenty-two patients, and a second at Panda-Likasi, in the vicinity of the copper mines and the uranium mine at Chinkolobwe, with a bed capacity of sixteen. There are, in addition, six hospitals for the natives, located in the important mining centers. The hospital at Panda, constructed during the war, has a bed capacity of 280. It is substantially built, and cost more than 1,500,000 francs. The central pharmacy of the society owns stocks of drugs and dressings valued at more than a million francs.

The society has created, besides the hospitals, a large observation camp where natives new in its employ spend from ten to fifteen days before they are sent out to the various mining districts. In the observation camp the new employees are deloused, their clothing is disinfected, and they are vaccinated against smallpox, typhoid fever and pneumonia. The mortality in the camps of the Union minière is still around 25 per cent. The large majority of deaths (75 per cent.) are due to pneumonia and to influenza, and 20 per cent. to bacillary dysentery. Typhoid has claimed no victims since recourse has been had to vaccination.

The Société internationale forestière et minière of the Congo, a large diamond producing corporation, employs a large number of natives and has eight physicians and twelve European medical aids. The Société des huileries of the Belgian Congo, which employs 200 white persons and 13,000 natives, has eight physicians in its service. It has established for the natives three hospitals and four lazarets. The Compagnie de chemin de fer of the Great Lakes has five physicians. It has two hospitals for Europeans: one at Stanleyville with from ten to fifteen beds, and a second at Lunbunda (at an elevation of 2,650 feet) with ten rooms for patients. It has created also two large hospitals for the natives.

THE EPIDEMIOLOGIC SITUATION

Malaria is the tropical disease that causes the most deaths (about 26.5 per cent.). The general mortality among the white population was, in 1921, 12.3 per thousand. In 1921, eleven cases of trypanosomiasis were diagnosed among Europeans. The case mortality resulting from hemoglobinuric fever, which amounted to 22 per cent. in 1916-1918 (203 cases, forty-three deaths), has dropped to 12.4 per cent. during the years 1919-1921 (161 cases, twenty-two deaths). The other diseases that claimed many victims during the first years of European occupation, such as amebic dysentery, recurrent fever and typhoid, have retrogressed markedly.

In the large centers, the crusade against malaria has been actively begun. An antimalaria league has been formed at Elizabethville. This society, during 1922, cleared away the brush and drained about 200 hectares of land adjoining the city. The league has interested itself also in road repair work to prevent the stagnation of water. It has also carried on an active publicity campaign, through lectures and articles in the local journals, and in this manner has extended the use of screening.

But the most feared disease is trypanosomiasis. Up to the present time, the results of the crusade waged against this disease have not been very encouraging. Of late, the mode of operations has been changed. Attention is being directed mainly to the reservoirs of virus and to the discovery of new cases, a serious effort being made to let no one escape, and to treat all patients with atoxyl. I reported (THE JOURNAL, Dec. 20, 1924, p. 2032) the results of the Schwetz mission. Leprosy also, though the mortality is not so high, is another disease from which our colony is suffering. As yet, no systematic and effective campaign has been launched against it. I have reported also (THE JOURNAL, Jan. 24, 1925, p. 299) the high mortality rates due to pneumonia among the natives, and referred to the proposal of M. Kadaner, who recommends the creation of acclimatization camps.

Diseases due to intestinal parasites (amebic dysentery, bilharziosis, ancylostomiasis, trichocephaliasis, ascariasis) still cause too many deaths among the natives. However, certain elements of the population have learned the danger of impure water and the necessity of cooking their food carefully.

Provincial Medical Polyclinics

Addressing recently the Fédération médicale belge, Dr. Dejace developed the details of a plan for the creation of medicosurgical clinics and polyclinics, to be organized by the physicians themselves. The industrial unions may own hospitals but may not operate them. It will be necessary, therefore, that the unions which take up the proposition establish a special body, composed of members of the industrial union, to take charge of the management. The unions, although they have not the right to commercialize and exploit directly, are permitted to create subsidiary bodies composed of their own members which can then do what the industrial union cannot itself undertake. The author of this plan, after taking some of the initial steps, affirms that the government and many mutual benefit societies would be willing to support such an undertaking. One main purpose of this project is to maintain individual medicine abreast of the newer developments in therapeutics, and to oppose the efforts of certain groups which, under the name of mutual aid societies, tend to establish a monopoly in the field of medicine which inures to the profit of those affiliated and to the profit of certain political parties.

Standardization of Serologic Methods

An official circular sent to the syphilologists who are directors of clinics requests that methods be unified and that certain tests, with a view to collecting reliable statistics, be applied to all patients. This circular was sent out in response to a request of the health section of the League of Nations, which is endeavoring to standardize laboratory methods. The Société belge de dermatologie et de syphiligraphie has decided to appoint a commission to study the question of the serologic methods to be approved, in compliance with the desire of the government. The same commission will study the aid being received from the government in the crusade against syphilitic infection, and will inquire into the modifications of method that are indicated owing to the marked retrogression of syphilis.

BERLIN

(From Our Regular Correspondent)

March 7, 1925.

Arsenic-Containing Potash in Foodstuffs

Investigations instituted in connection with two recently observed cases of illness established the fact that the potash (potassium carbonate) used in making *Pfefferkuchen* (cookies) may contain considerable quantities of arsenic. Since then, other food-examining laboratories have made similar observations. The investigations of the federal public health service revealed that these heretofore unobserved quantities of arsenic may be found in potash manufactured from the wool fat of sheep that have been treated with arsenic-containing mixtures to ward off the scab. It was shown that from this source quantities of arsenous oxid equal to from 0.08 to 0.25 per cent. of the mass may be left in the potash. Such potash is, for hygienic reasons, unsuitable to be used in the preparation of food. But for technical purposes, for example, glass manufacture, dyeing, laundry use and soap manufacture, potash with the aforementioned arsenic content is perfectly usable.

Potash is used in the Dutch process of cocoa manufacture, and, since time immemorial, a small quantity of potash has been added to the dough in baking *Pfefferkuchen*. To prevent the use of arsenic-containing potash for these two purposes, the unions concerned in the cocoa manufacturing and the baking industries have been warned by the federal public health service against the use of arsenic-containing potash, and have been urged to caution their members when buying potash to demand a brand from which all arsenic, as far as it is technically possible, has been removed. The chemistry industry should have no trouble in manufacturing unobjectionable brands of potash. Also the proprietors of drug stores will be warned by the federal public health service, through an announcement in the proper trade journals, of the occurrence of arsenic-containing potash on the market and of the inadmissibility of selling such potash for use in the preparation of food. Aside from these prophylactic measures, the food-examining laboratories that watch over the quality of food preparations will have their attention drawn by a decree of the Prussian minister of public welfare to the occurrence of arsenic in potash and also in cocoa goods and in *Pfefferkuchen* in the preparation of which such potash has been employed. The pure food law of May 14, 1879, furnishes authority for condemning such goods. The question as to whether potash with the above mentioned content of arsenous oxid is to be regarded as injurious to health within the meaning of the pure food law must be categorically affirmed, especially in view of the fact that children frequently ingest large quantities of *Pfefferkuchen* and chocolate products. On the other hand, it is not thought justifiable to raise objections to such potash, and to such articles of food in which potash was employed, in which the presence of arsenic could be detected only by extremely sensitive tests.

Metabolism of the Carcinoma Cell

Before the Berliner medizinische Gesellschaft, Professor Warburg delivered an address recently on the metabolism of the carcinoma cell. With a method that he himself devised for the determination of the gas exchange in cells, Warburg discovered fifteen years ago that in the ovum of the sea-urchin at the moment of impregnation, with the transition from a state of rest to one of development, a sixfold increase of respiratory exchange set in. Since in the carcinoma cell, as well, there is a transition to accelerated growth, an increase of respiratory exchange was also expected. It was found, however, on examining thin razor-made sections and comparing them with sections of normal organs of adult animals that there was no increase in carbon dioxid respiration but, on the contrary, a decrease. There was no increase even on addition of nutrients to the Ringer solution; on addition of sugar, the carbon dioxid respiration ceased entirely. In the carcinoma cell an extraordinary increase in glycolytic capacity was observed; in fact, this was so great that in an hour 12 per cent. of the tumor's own weight was changed to lactic acid; that was about 200 times as much as the resting, and eight times as much as the maximally working, frog's muscle furnishes. It is evident, therefore, that the carcinoma cell does not live, as do other tissue cells, from its oxidative metabolism, but more as the yeasts from its fermentative metabolism. For this reason, only when sugar is added to Ringer's solution will it preserve carcinoma cells so that they will "take" when inoculated. This fundamental difference in the metabolism can be especially well demonstrated if, first, respiration under aerobic conditions and later fermentation under anaerobic conditions is studied. In the carcinoma cell, the latter process predominates by far. If the examination is made under aerobic conditions, the anaerobically formed lactic acid disappears; in fact, from three to six times as much as would correspond to the oxygen breathed in. We find here an analogy to metabolic processes found by Meyerhof to occur in muscle, in which through the carbon dioxid respiration from three to six times as much of the lactic acid formed anaerobically from carbohydrate disappears as would correspond to the oxidation by carbon dioxid. We are dealing here with a reversible process, in which through the carbon dioxid respiration (oxibiosis) the lactic acid formed anaerobically from the muscle (anoxibiotic phase) is changed back to carbohydrate. Also in the carcinoma cells there occurs a similar two-phase metabolism. Glycolytic effects were found also in other growing tissues. Also these are subject to retardation through oxygen respiration. Next to carcinomatous tissues, embryonic tissues in the early stages of development presented the most marked anaerobic glycolysis. The organs of animals showed less glycolysis, and adult tissues, with the exception of the retina, showed the least. It appears, therefore, that, aside from this one exception, anaerobic glycolysis is characteristic of growth. There is, however, an important difference between the orderly growth of embryonic or young tissues and the abnormal growth of malignant tumors. In the case of orderly growth, respiration suffices to bring about the complete disappearance of all lactic acid formed anaerobically, so that the balance shows a pure oxidation metabolism. In carcinoma cells, on the other hand, even under aerobic conditions, only a small portion of the anaerobically formed acid disappears, and the glycolytic metabolism predominates by far. Of thirteen molecules of sugar in a carcinoma, twelve are split up glycolytically and only one molecule is oxidized. Other malignant tumors acted in the same manner as carcinomas. Embryonic tissues, on the contrary, perish, as they cannot live from glycolysis when respiration is impaired. The benign tumors occupy a midway position between malignant tissues and normal tissues. In benign tumors, oxidation metabolism is comparatively much more marked than in carcinoma. In fully developed tumors glycolysis is weaker, since the dying tissues and the developing tissues counterbalance one another. The necrotic portions no longer present a fermentative metabolism. A marked anaerobic glycolysis is essential and characteristic for malignant ulcers. Under normal aerobic conditions, metabolism is considerably changed in favor of splitting, whereas oxidation metabolism becomes less prominent.

PRAGUE

(From Our Regular Correspondent)

March 3, 1925.

Housing Problem

Recently the results of the state subsidy for the curtailment of the housing shortage have been published. During the period from June 1, 1921, to the end of 1924, there were built 24,132 houses under the grants from the housing act, comprising 49,654 apartments. The total amount which was paid out of state funds approximated 100 million dollars. In Prague alone, 1,942 houses were constructed with 9,418 apartments. The purpose of the act was to guarantee from the state funds to the builder and building associations a part of the capital invested up to 50 per cent. of the whole cost, provided the plans had been approved by the proper authority. The policy of the state authorities was to encourage the construction of one family houses. The validity of the act expired in June, 1924, because it was expected when the law was enacted that by that time no further assistance from the state would be required. Although the housing conditions under the act have improved considerably, it is felt that the operation of the act should be extended, perhaps in a different form. The public discussion of the problem centers round the question as to which type of houses should be subsidized by the state. While it is unquestionable that the one family house is most desirable on hygienic and moral grounds, it cannot be denied that more space can be provided for less money in apartment houses. The argument is being brought forward that it is better to provide more apartments, even of modest dimensions, than to help fewer people to hygienic housing conditions to the detriment of those who could not share in the benefits of the housing act. The health officer of Prague, Dr. L. Procharka, has brought forward the proposition that under the present conditions the most economical way to solve the housing shortage would be to subsidize only the very small type of family house, consisting of one large kitchen and one small room. He defends his proposition through the undeniable fact that the small families which make up the new city population and which sprang up largely from the country population are accustomed to centering the life of the family round the kitchen. As far as private initiative is concerned, the city of Prague will benefit from it in the near future for the improvement of its housing conditions. The largest two savings banks in Prague, with the assistance of the life insurance companies, have pooled their resources for the construction of a new suburb of Prague furnishing apartments to 10,000 people.

Standards of Living

The state statistical institute has recently published an interesting study of thirteen families from the working class and eight families of public officials. The income and expenditures of these families, for fifty-two weeks, were studied and calculated per unit of consumption. It appears from the results that the differences in expenditure for food are not very great. While the class of public officials has a higher consumption of meats, the working class consumes more for flour and potatoes. Taken on the basis of calories, it appears that there is very little difference between the two classes; 833,444 calories was consumed per consumption unit in the working class, and 886,849 calories in the class of officials. The difference in price was considerable because the first group paid 1,963.96 crowns for the food consumed, and the second group 3,057.22 crowns. From the list of different foodstuffs it is interesting to note that the family from the working class consumes 22.54 kg. of meat, as compared with 45.25 kg. from the class of officials per consumption unit. When flour, bread and potatoes consumed are compared for the two classes, we get 228.11 kg. per unit annually, as compared with 189.33 kg. in the second class. The consumption of milk for the two classes amounts to 109.83 liters and 167.79 liters for each year and unit. The largest differences in the expenditures of the two groups can be noted in such items as clothing, housing, amusements and books.

Physical Examination of Athletes

An international ski contest was held in Janske Lazne, Bohemia, February 14 and 15. Careful medical measures were taken for the protection of the health of the participants in the contest. This was only one example of the prophylactic measures in sports and physical education that have been instituted in Czechoslovakia as the result largely of the interest of Prof. V. Libensky of Prague. A number of studies have been published from his department at the Prague Medical School on the results of the systematic examination of members of sporting clubs and physical education associations. It is striking to note the defects found even among those who have been successful in sports. Most of these defects relate to the heart. Next come diseases of the lungs and kidneys. At the aforesaid ski contest, assistants from the university clinics gave each of the participants a physical examination, with especial reference to the heart, took the blood pressure, and examined the blood and urine in the laboratory. The same examination was carried out after the contest. Furthermore, surgeons with special equipment were stationed all along the trail of the contest.

Cooperation in Health Work

Through the National Council of Social Hygiene, the Masaryk League Against Tuberculosis and the Czechoslovak Association for the Protection of Mothers and Children have agreed on a form of cooperation in the field. It is recommended for the smaller communities to employ one well qualified and properly recompensed public health nurse to serve the local branches of both associations. Through this arrangement, it will be easier to employ qualified public health nurses even in small communities, and in the larger ones the service may be improved by the avoidance of overlapping in the work of different organizations. This arrangement should also reduce the cost to the communities. It is even recommended to use the same physician in the dispensaries in case there is no specialist for tuberculosis or children's diseases in town. As far as the location of the dispensaries goes, it seems advisable to maintain separate spaces. In case a tuberculosis problem is encountered in child welfare work, the patient should be referred immediately to the tuberculosis dispensary. Again, the tuberculosis workers, on finding a case belonging in the field of the child welfare association, should refer the child there. Localities for the dispensaries of the two associations should never be combined, because of technical as well as psychologic considerations.

Marriages

John Ritter Sutter to Miss Elizabeth Katherine Drexelius, both of Edwardsville, Ill., at St. Louis, March 7.

Charles F. Magee, Moscow, Ind., to Miss Lens Davis of Vasper, Tenn., at Spokane, Wash., January 24.

William Burr Atkinson, Campbellsville, Ky., to Miss Sallie Wade of Knoxville, Tenn., recently.

Thomas David Moore to Miss Ruth Frazer Brown, both of Memphis, Tenn., March 18.

Marcus Crew Hunt, Fairfax, Ala., to Miss Libbie Janet Bross of Mixbury, recently.

Jacob J. Wiener to Miss Dorothy Fields, both of New York, recently.

Deaths

John Newell Hurty ● Indianapolis; Medical College of Indiana, Indianapolis, 1886; died, March 27, at the age of 73 years, following influenza. Dr. Hurty was born in Lebanon, Ohio, Feb. 21, 1852. In 1873, he studied at the Philadelphia College of Pharmacy and at the Franklin Institute in Philadelphia. A year later, he enrolled at the Jefferson Medical College. In 1875, he went to Indianapolis as a foreman in charge of a pharmaceutical manufacturing plant, and resigned later to conduct a laboratory for analytic chemistry and a prescription drug store. He lectured in the Medical College of Indiana, beginning in 1881, and founded the School of Pharmacy of Purdue University, in which he served as dean in 1882 and 1883. In 1896 he was appointed secretary of the state board of health, which position he occupied until 1922. Dr. Hurty proposed the first legislation for regulation of foods, which was adopted by Indiana in 1899, and later by the federal government. He had been president of the American Public Health Association and of the Conference of State and Provincial Boards of Health, a member of the National Milk Standards Committee and had held offices in various pharmaceutical associations. A two-volume textbook entitled "Health with Life," a column of health advice appearing regularly in the press, and many articles and bulletins constituted his literary contributions. He also held public office as a member of the Indiana State legislature for several terms. In the American Medical Association he served twice as a member of the House of Delegates, on each occasion doing excellent service on reference committees dealing with legislation. Dr. Hurty was a pioneer in the advancement of public health in this country. His genial personality and his enlightened leadership earned for him the continued support of all with whom he came in contact.

Thomas James Watkins ● Chicago; well known as a leader in gynecology, died suddenly of heart disease while in his office, April 1, aged 61 years. He was born in Utica, N. Y., July 6, 1863; was graduated at the Adams (N. Y.) Collegiate Institute, and attended the Medical Department of the University of Michigan from 1880 to 1883, receiving his degree in medicine from the Bellevue Hospital Medical College of New York University in 1886. After serving an internship at St. Peter's Hospital, Brooklyn, from 1886 to 1888, and at the Woman's Hospital of New York State from 1888 to 1889, he became assistant in gynecology at Northwestern University Medical School, in Chicago, serving in this position until 1896, at which time he became associate professor of gynecology. In 1900, he was made clinical professor, and since 1916 has been professor. He had served as attending gynecologist at St. Luke's since 1894; at the Wesley Hospital from 1896 to 1914, and at the Mercy Hospital from 1900 to 1909. He was a member and ex-president of the American Gynecological Society, a fellow of the Institute of Medicine of Chicago, and an active worker in local medical organizations. In 1919, he was chairman of the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association. Dr. Watkins was well known as a high-minded leader in the affairs of medicine in his community, and also as an inspiring teacher of the many students who were members of his classes during the thirty-four years of his association with Northwestern University.

Eugene Langdon Mann, St. Paul; Hahnemann Medical College and Hospital of Philadelphia, 1886; formerly dean and professor of ear, nose and throat diseases, University of Minnesota College of Homeopathic Medicine and Surgery; member of the Minnesota Academy of Ophthalmology and Oto-Laryngology; at one time on the staffs of St. Luke's and St. Joseph's hospitals; aged 63; died, March 14, at Chicago, of heart disease.

William Morgan Martin ● Wellington, Kan.; St. Louis College of Physicians and Surgeons, 1891; Bellevue Hospital Medical College, New York, 1894; served in the M. C., U. S. Army, with the rank of captain, during the World War; city and county health officer; aged 57; died, March 13, of cardiorenal disease.

John B. Turner ● Woodbury, N. J.; Jefferson Medical College of Philadelphia, 1882; member of the College of Physicians, Philadelphia; formerly on the staff of the Jefferson Hospital; aged 66; died, March 3, at the Methodist Hospital, Philadelphia, of pneumonia, following an operation for carcinoma of the stomach.

John Malcolm Oglesby ● Alexandria, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1909; served in the M. C., U. S. Army, during the World War; aged 48; died, March 9, at the Baptist Hospital, of injuries received when the automobile in which he was driving overturned.

Charles Adolph Roosevater ● Newark, N. J.; Columbia University College of Physicians and Surgeons, New York, 1899; on the staffs of the City Hospital, Newark, Beth Israel Hospital, New York, and the Irvington (N. J.) General Hospital; aged 50; died suddenly, in March, at Summit, of heart disease.

Daniel Herbert Reeves, Burkburnett, Texas; Vanderbilt University Medical Department, Nashville, Tenn., 1914; member of the State Medical Association of Texas; served during the World War; aged 32; died, March 8, at the Wichita Falls (Texas) General Hospital, of acute articular rheumatism.

Robert S. Rutherford, New Albany, Ind.; Kentucky School of Medicine, Louisville, 1888; member of the Indiana State Medical Association; for six years a member of the school board; aged 71; died, March 13, at the Deaconess Hospital, Louisville, Ky., following an operation on the gallbladder.

Coray A. Nickell, Mayview, Mo.; University Medical College of Kansas City, 1896; member of the Missouri State Medical Association; aged 53; died, March 2, at the Research Hospital, Kansas City, of injuries received when the automobile in which he was driving was struck by a train.

Charles Sumner Rockhill ● Cincinnati; Medical College of Ohio, Cincinnati, 1906; medical director and proprietor of the Rockhill Sanitarium, and formerly superintendent of the Cincinnati Tuberculosis Sanatorium; aged 61; died, March 9, at the Jewish Hospital, of streptococcus septicemia.

David James McConnell ● Berlin, N. H.; University of Vermont College of Medicine, Burlington, Vt., 1910; served in the M. C., U. S. Army, during the World War; aged 40; died, March 1, at the Peter Bent Brigham Hospital, Boston, following an operation for brain tumor.

William Sawyer Dennett, New York; Medical School of Harvard University, Boston, 1874; member of the Medical Society of the State of New York, the American Ophthalmological Society and the New York Ophthalmological Society; aged 76; died, March 6.

George W. Rhonehouse, Maumee, Ohio; Cleveland University of Medicine and Surgery, 1881; formerly president of the county board of health; for thirty-three years attending physician to the Lucas County Infirmary, Toledo; aged 75; died, March 4.

John Edward Duffy, Ridgefield Park, N. J.; Baltimore Medical College, 1905; served in the M. C., U. S. Army, during the World War; aged 44; died, March 6, at the Hackensack (N. J.) Hospital, of pneumonia, following an appendectomy.

Joseph M. Hubert ● New Orleans; Medical Department of the Tulane University of Louisiana, 1895; past president of the Lafourche County Medical Society; aged 50; died suddenly, March 1, at the Touro Infirmary, of heart disease.

Frank E. Auten ● Belleville, Ill.; University of Pennsylvania School of Medicine, Philadelphia, 1895; member of the American Academy of Ophthalmology and Oto-Laryngology; aged 61; died, Dec. 21, 1924.

Howard Ivins, Trenton, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1899; on the staff of the William McKinley Memorial Hospital; aged 54; died, February 26, of cerebral hemorrhage.

Edward Bronson Finch ● Greenfield, Mass.; Medical Department of Columbia College, 1894; served in the M. C., U. S. Army, during the World War; aged 55; died, March 1, of pulmonary embolism.

James R. Campbell, Newton, N. C.; University of Maryland School of Medicine, Baltimore, 1876; member of the Medical Society of the State of North Carolina; aged 75; died, March 2.

Harry Lorne Pavey, Montreal, Que., Canada; McGill University Faculty of Medicine, Montreal, 1903; on the staff of the Royal Victoria Hospital; aged 46; died, January 2, of heart disease.

● Indicates "Fellow" of the American Medical Association.

Israel C. Oden, Shreveport, La.; Atlanta Medical College, 1895; aged 57; was found dead, March 9, near Washom, Texas, of a bullet wound, self-inflicted, while suffering from ill health.

Paul C. Scholz, St. Louis; Barnes Medical College, St. Louis, 1902; member of the Missouri State Medical Association; aged 64; was killed, March 7, in an automobile accident.

Tannus Ferris Tannus, Beirut, Syria, Medical Department of the University of Illinois, Chicago, 1905; formerly a practitioner in Illinois and New Mexico; aged 45; died recently.

Harry Breed Rising ● South Glastonbury, Conn.; Yale University School of Medicine, New Haven, 1895; aged 51; died, March 7, of cerebral hemorrhage and diabetes mellitus.

Union H. Holder, Washington, Ind.; Medical College of Indiana, Indianapolis, 1895; formerly county coroner; aged 61; died, March 9, of pneumonia, following influenza.

Edward Jacob Carpenter Ellis ● Benzonia, Mich.; Chicago Medical College, 1889; Dartmouth Medical School, Hanover, N. H., 1890; aged 63; died, March 7, of gastric ulcer.

Shin Five Pond Moear Joe, Tientsin, North China; University of California Medical School, San Francisco, 1908; aged 42; died, February 22, of cerebral hemorrhage.

George Ransom Kent, Newark, N. J.; Bellevue Hospital Medical College, New York, 1867; member of the Medical Society of New Jersey; aged 84; died, February 15.

Jacob Brown Young, Worthington, Ind.; Medical College of Indiana, Indianapolis, 1890; secretary of the county board of health; aged 69; died, March 7, of pneumonia.

Charles Wellington Fallis, Danville, Ill.; College of Physicians and Surgeons, Chicago, 1885; aged 64; died, March 16, at St. Elizabeth's Hospital, of heart disease.

Hector Lanchlin MacFadyen, Waynesville, N. C.; Medical Department of the University of the City of New York, 1877; Civil War veteran; aged 77; died, February 27.

John C. McCormick, Pittsburgh; Jefferson Medical College of Philadelphia, 1869; member of the Medical Society of the State of Pennsylvania; aged 78; died, March 1.

Bruce Smith Keator, Asbury Park, N. J.; Long Island College Hospital, Brooklyn, 1881; New York Homeopathic Medical College, 1881; aged 70; died, March 8.

John Hosea Carmichael, Springfield, Mass.; Albany (N. Y.) Medical College, 1873; physician in charge of the Wesson Memorial Hospital; aged 73; died in March.

J. G. Street, Oklahoma City; Atlanta (Ga.) Medical College, 1867; also a druggist; Confederate veteran; aged 78; died, February 15, at the Wesley Hospital.

Moreau S. Browne, Winchester, Ky.; Bellevue Hospital Medical College, New York, 1874; Confederate veteran; aged 80; died, March 2, following a long illness.

Alexander Klein ● Philadelphia; Long Island College Hospital, Brooklyn, 1889; on the staff of Mount Sinai Hospital; aged 62; died, March 13, of heart disease.

Francis Stanislaus Swain ● Corning, N. Y.; Ohio Medical University, Columbus, 1903; city health officer since 1910; aged 53; died, March 7, of heart disease.

Jesse L. Jackson, Bellingham, Wash.; University of Nashville Medical Department, 1888; aged 60; died, March 8, at a local hospital, of cerebral hemorrhage.

George William Collins, Pawnee City, Neb. (licensed, Nebraska, 1891); formerly member of the state legislature; aged 84; died, March 9, of pneumonia.

Joseph Lesperance, Montreal, Que., Canada; Montreal School of Medicine and Surgery, 1886; University of Paris, France, 1891; aged 61; died, March 7.

Frank Kahlenberg, New York; Eclectic Medical College of the City of New York, 1895; aged 75; died, February 26, of heart disease and arteriosclerosis.

Lossie Edmond Gilbert, Carresville, Ky.; University of Louisville School of Medicine, 1908; aged 42; died, March 3, at the Riverside Hospital, Paducah.

Daniel McEacheran, Stanwood, Wash.; University of Michigan Medical School, Ann Arbor, 1886; aged 65; died, February 25, following a long illness.

Edward Everett, Madison, Wis.; Hahnemann Medical College and Hospital, Chicago, 1883; aged 71; died, March 17, at Beloit, of cerebral hemorrhage.

Wilson T. Cooper, Scircleville, Ind.; Cincinnati College of Medicine and Surgery, 1871; Civil War veteran; aged 80; died, March 10, of heart disease.

Albert B. Vogel, St. Louis; Medical Department of Washington University, St. Louis, 1896; member of the board of health; aged 50; died in March.

Elsie R. Schmitz, Green Forest, Ark.; Hahnemann Medical College and Hospital, Chicago, 1894; aged 68; died, February 3, of cerebral hemorrhage.

Thomas Hart Smith, Philadelphia; Hahnemann Medical College of Philadelphia, 1866; Civil War veteran; aged 78; died recently, of senility.

Alonzo Redfield Pettit, Patchoque, N. Y.; Eclectic Medical College of the City of New York, 1874; aged 76; died, March 2, of heart disease.

Albert John Moorman ● Dayton, Ohio; Jefferson Medical College of Philadelphia, 1907; aged 41; died, February 2, of influenza and pneumonia.

Felix Joy Stewart ● Tacoma, Wash.; Chicago Medical College, 1885; county coroner; aged 66; died, March 6, of cerebral hemorrhage.

Calvin W. Bobo, Altoona, Kan.; Eclectic Medical Institute, Cincinnati, 1889; aged 62; died recently, at Lady Smith, of cerebral hemorrhage.

William Rankin Malone, Bergholz, Ohio; Ohio Medical University, Columbus, 1897; aged 66; died suddenly, March 3, of heart disease.

Carroll T. Chandler, Marianna, Ark.; Vanderbilt University Medical Department, Nashville, Tenn., 1884; aged 66; died, January 11.

Marcellus Mayfield, Kokomo, Ind.; Kentucky School of Medicine, Louisville, 1897; aged 58; died, March 3, of cerebral hemorrhage.

William J. Sugnet ● Gagetown, Mich.; University of Michigan Medical School, Ann Arbor, 1905; aged 44; died, March 4, of pneumonia.

Ira J. Sexton ● Summerfield, Ill.; Jenner Medical College, Chicago, 1912; aged 50; died, March 10, at St. Louis, of angina pectoris.

Willard Chaney, Detroit; Detroit Medical College, 1877; member of the Michigan State Medical Society; aged 70; died, March 6.

Edward M. Furey, Norristown, Pa.; Jefferson Medical College of Philadelphia, 1883; aged 66; died recently, of cerebral hemorrhage.

Charles W. Goodno, Belpre, Ohio; Medical College of Ohio, Cincinnati, 1879; aged 71; died, March 6, of cerebral hemorrhage.

William W. Wilkerson, Idaville, Ind.; Physio-Medical Institute, Cincinnati, 1872; aged 75; died, March 9, of pneumonia.

Delta Kerr Andrews, Detroit; Cincinnati College of Medicine and Surgery, 1898; aged 54; died, January 23, of pneumonia.

Emmett Kimbrough Moon, Birmingham, Ala.; Chattanooga (Tenn.) Medical College, 1892; aged 57; died, March 6, of pneumonia.

Reuben Gilmore Dean ● Ithaca, Mich.; Detroit College of Medicine and Surgery, 1896; aged 69; died, March 3, of pneumonia.

John S. Lewis, Carbondale, Ill.; American Medical College, St. Louis, 1878; formerly a bank president; aged 73; died, March 2.

Caruthers A. Anthony ● Fredericktown, Mo.; Missouri Medical College, 1882; aged 66; died, March 2, of heart disease.

Carson W. Pittman, Salem, Iowa; Louisville (Ky.) Medical College, 1876; aged 71; died, March 5, following a long illness.

Charles Jacob Manning ● Harrisburg, Pa.; Jefferson Medical College of Philadelphia, 1889; aged 64; died, March 8.

Harry Dolano Kennard ● Peabody, Mass.; Medical School of Harvard University, Boston, 1895; aged 55; died, March 5.

David A. Mitchell ● Seattle; Chicago Medical College, 1876; aged 76; died, February 7, of angina pectoris.

Edward Hanson Lockwood, Bayard, Iowa; Rush Medical College, Chicago, 1875; aged 77; died, March 13.

Isaac N. Albright, Chicago; Albany Medical College, 1885; aged 70; died, March 22, of organic heart disease.

Frank Armitage Reilly, Detroit; Detroit College of Medicine and Surgery, 1895; aged 59; died, March 7.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

WHAT IS THE COMPOSITION OF BISMUTH TARTRATES USED IN THE TREATMENT OF SYPHILIS?

L. E. Warren, Ph.C., B.S.

During the last few years, bismuth compounds have come into use in the treatment of syphilis. These compounds are of complex composition, chiefly combined with tartaric acid. The use of bismuth in syphilis originated in France, and the majority of the pharmacologic and clinical tests with these compounds have been carried out by French investigators, although some reports have appeared in American journals. Reviews of the literature on the clinical use of bismuth in syphilis have appeared in THE JOURNAL from time to time.[1]

An examination of the literature reveals that there is considerable confusion concerning the chemical composition of the bismuth tartrates used in the treatment of syphilis. This confusion becomes greater when the composition as given by various clinicians and manufacturers is compared. Theoretically, tartaric acid is capable of forming a considerable number of compounds with bismuth, potassium and sodium.

A number of commercial bismuth tartrate preparations have been introduced to the American market. The products that have been submitted to the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies were stated to be complex bismutho-tartrates varying in bismuth content from 36 to 65 per cent. The A. M. A. Chemical Laboratory undertook a study of these with the view of supplying the Council on Pharmacy and Chemistry with information concerning their composition and quality. The products which were examined were as follows:

1. Laboratory specimen[4] prepared by Cowley's method.
2. Dermatological Research Laboratories specimen.
3. Powers, Weightman, Rosengarten Co. specimen.
4. H. A. Metz Laboratories specimen.[5]
5. Chenal, Douilhet & Co. (Anglo-French Drug Co.) specimen (Trepol).
6. Synthetic Drug Co., specimen (Insoluble).
7. Synthetic Drug Co., specimen (Soluble).

The results of the examination[6] are given in Table 2.

A glance at the findings shows there is a wide variation in the chemical composition of these different products, the bismuth alone varying from about 31 to about 73 per cent. The analysis of the laboratory specimen which had been prepared essentially according to the directions of Cowley, showed that this product is not a potassium sodium bismuth tartrate but is, virtually, a basic bismuth tartrate containing small amounts of potassium and sodium salts as impurities. The literature fails to show that Cowley claimed his product to be "potassium sodium bismuth tartrate" but the name was applied by the French manufacturers of Trepol to a product made by the Cowley method. The error has persisted in the literature for several years without challenge.

TABLE 1.—*Suggested Formulas for Some Complex Bismuth Tartrates with Potassium and Sodium and Their Calculated Composition*

Theory for	$KBi_2C_8H_2O_{10}$ + $6H_2O$	$KNaBiC_8H_2O_{10}$	$KNaBiC_8H_2O_{10}$ + H_2O	$K_2Na_2Bi_2C_{16}H_{12}O_{24}$	$K_2Na_2Bi_2C_{16}H_{12}O_{24}$ + $9H_2O$	$KNaBi_2C_8H_2O_{12}$
Potassium	4.21	2.62	2.54	5.25	3.67	2.20
Sodium	.....	3.21	3.19	3.29	3.19	1.65
Bismuth	67.19	63.69	62.75	54.25	50.75	74.4
Tartaric acid liberated	26.15	24.65	25.79	50.62	44.37	20.74
Water of hydration	7.75	.....	2.82	.....	11.80	0

TABLE 2.—*Analysis of Specimens of Complex Bismuth Compounds*

	Laboratory	D. R. L.	P. W. R.	Trepol (1st Analysis)	Trepol (2d Analysis)	Metz	Synthetic Drug Co. (Insoluble)	Synthetic Drug Co. (Soluble)
Potassium	0.39	5.36	5.76	1.31	1.60	0.57	0.35	0.35
Sodium	0.25	.....	5.13	0.80	0.86	15.25	0.69	6.25
Bismuth	61.1	65.72	31.41	72.10	72.60	34.60	62.60	57.60
Tartaric acid liberated	22.0	20.50	.....	.....	.....	44.30	.....	.....
Water of hydration	.....	4.53	12.50	2.50	2.21*	.....	3.05	1.70

* This specimen contained 1.51 per cent. of calcium, 4.79 per cent. of carbon dioxid and 8.15 per cent. of water-soluble material, the latter being chiefly potassium sodium tartrate.

The formulas proposed in the literature for some of the bismuth tartrates are given in Table 1, together with their calculated composition.

The preparation which has been most used in France is claimed to be potassium sodium bismutho-tartrate[2] and to be prepared according to the method of Cowley.[3]

In the case of Trepol, the manufacturers declare that their product is a complex potassium sodium bismutho-tartrate. The laboratory found that it was not. Moreover, not only did the analysis show that the product was not a potassium sodium bismuth tartrate but the presence of such needless impurities as calcium carbonate and uncombined potassium sodium tartrate was demonstrated. When the discrepancy was brought to the attention of the manufacturer, the firm denied that such was possible and challenged the analysis. Accordingly, a second analysis was made of the same speci-

1. J. A. M. A., Aug. 25, 1923, p. 661; ibid., Dec. 27, 1924, p. 2087.
2. Nazerac, R., and Levaditi, C.: Action du bismuth sur la syphilis et sur la trypanosomiase du Nagana, Compt. rend. Acad. sc. 172: 1391, 1921.
3. Cowley prepared his bismuth compound as follows: Bismuth subnitrate, 70 gm.; potassium sodium tartrate, 64.5 gm.; nitric acid (specific gravity, 1.430), 57 c.c.; sodium bicarbonate, 57 gm. Mix the nitric acid with an equal volume of water and dissolve the bismuth subnitrate in the mixture. Add the Rochelle salt dissolved in a little water and then the sodium bicarbonate also dissolved in water. Heat to expel carbon dioxid, filter and wash the precipitate until the filtrate no longer gives a test for nitrates. Lastly, dissolve the precipitate in normal sodium hydroxid solution. (Chem. Drug. 89: 212, 1913.)
4. The preparation was dried at 100 C. instead of being dissolved in sodium hydroxid solution as Cowley directs.
5. This product was not a market article but was sent as a laboratory specimen. Its examination was included as a matter of record.
6. Details of analysis will be published in the Annual Reports of the A. M. A. Chemical Laboratory, 1925.

men of Trepol first examined. The results confirmed the first analysis in every particular. The results of the second analysis were then brought to the attention of the French manufacturers of Trepol. They then admitted the correctness of the A. M. A. Chemical Laboratory's findings and offered some unusual "explanations"; they failed to give any satisfactory explanation for the presence of calcium and carbon dioxid. The examination of Trepol warrants the conclusion that Chenal, Douilhet & Co. have been ignorant of the composition of the product which they were selling. It is proper to ask whether the error in the literature concerning the composition of Trepol would not have been revealed sooner if the manufacturers of the product had exercised proper chemical control of their preparation.

In the case of the insoluble specimen from the Synthetic Drug Company, it was first submitted under the name of sodium potassium bismuthyl tartrate. When the analysis was brought to the attention of the firm it accepted the Laboratory's statement that the product (insoluble) was not a potassium sodium bismuth tartrate but was probably a bismuth tartrate, and voluntarily offered to change the name of the product so that it would not be misinforming. The product manufactured by the Dermatological Research Laboratories, which has been accepted by the Council on Pharmacy and Chemistry, was claimed to be potassium bismuth tartrate. According to the formula submitted it should contain about 67 per cent. of bismuth and 4.2 per cent. of potassium. The analysis confirmed these claims. The Powers, Weightman, Rosengarten Co.'s product is claimed to be potassium sodium bismuth tartrate and to contain about 35 per cent. of bismuth. After allowing for water of hydration, this was found to be correct. Therefore, the products made by the two United States firms, the Dermatological Research Laboratories and Powers, Weightman, Rosengarten Co., were found to be satisfactory in composition.

SUMMARY

The results of these examinations considered in the light of a review of the literature indicates that there is considerable diversity in the composition of the bismuth tartrate compounds used in syphilotherapy. Some are apparently potassium sodium bismuth tartrate; some are potassium bismuth tartrate; still others are sodium bismuth tartrate containing small amounts of potassium salts as impurities. The others appear to be basic bismuth tartrates of unknown constitution, which are contaminated with small quantities of potassium and sodium salts. It should be noted that the water soluble salts were found to have the composition claimed. The insoluble compounds did not conform to the composition claimed. The fact that the bismuth content in the various bismuth tartrate preparations—the satisfactory as well as the unsatisfactory—is within such a wide range (31 to 73 per cent.) emphasizes the necessity for clinicians to inquire carefully concerning the composition of the bismuth products they use, particularly in reference to the bismuth content, before making reports concerning the alleged effectiveness of this, that, or the other preparation. The fact that some of these bismuth compounds have been used in so-called scientific research without their composition being known to the users is a reflection on research.

Deaths from Puerperal Causes.—For the ten states and the District of Columbia (constituting the "Birth Registration Area" of 1915) the death rate from puerperal causes in 1923 was 6.4 per thousand live births as compared with 6.2 in 1922, 6.5 in 1921, and 6.1 in 1915. Of the thirty states for which figures are available for 1923 and 1922, fourteen show higher rates from puerperal causes in 1923. South Carolina has the highest 1923 death rate from puerperal causes (9.7 per thousand live births), and Utah the lowest (5). Separate rates for the white and colored are shown for only six states, Kentucky, Maryland, Mississippi, North Carolina, South Carolina and Virginia. For 1923 the highest rate for white persons appears for South Carolina (7.4), and the lowest (5.4) for both Kentucky and Maryland; whereas for the colored the highest rate (15.4) is for Kentucky, and the lowest (8.3) for Maryland.—*Pub. Health Rep.* **40**:80 (Jan. 9) 1925.

Correspondence

PERIDENTAL MEMBRANE AND VITALITY OF TEETH

To the Editor:—On page 1943, THE JOURNAL, Dec. 13, 1924, you say, among other things, "if the peridental membrane dies, then and *only* then does a tooth become dead or necrosed."

About 45,000 dentists in this country have been repeatedly told and educated by histologists of the medical and dental profession to believe that no nourishment is given any tooth from the peridental membrane. Every long practicing dentist knows that fully 50 per cent. of tooth pains he is called on to treat are the result of a diseased or inflamed peridental membrane. You say *only* when the membrane dies. You also advise that only when the entire membrane, not a portion, is dead, is it expedient to extract a tooth. Thousands of dentists and physicians will not agree with your statement. Many other pathologic conditions exist of only slight portions of the peridental membrane when the oralogist, dentist, doctor of medicine and patient all agree that the tooth should be removed. Still you say only when the membrane *dies* is a tooth considered dead.

ANNA H. CLUTHE, D.D.S., Evansville, Ind.

To the Editor:—In THE JOURNAL of Dec. 13, 1924, the comment regarding dead teeth should not go unchallenged.

In the issue of January 17, Dr. Byron C. Darling expresses the whole matter of the diseased tooth problem as it concerns the physician:

> As to the term "dead teeth," the matter is equally debatable. Since common practice for centuries has recognized these as "dead teeth," certainly the burden of proof is on those who would make it out otherwise. To be sure, such teeth are not all exfoliated at once; but they are shown, even so, to be the depository of the potential source of infection in the majority of cases, after six months or a year, whether with canals filled and no evidence of disease, or "cured" by the dental treatments. This subject has been covered many times from many angles, as shown by the literature of Rosenow, Duke, Grieves, Billings, Black, Darling, Head, Hunter, Moorehead, Pund, Potter, Thoma and Vaughan.

It is, indeed, hopeless to expect the dental profession, except for a thinking minority, to be of any assistance on the subject of dead teeth to men in medicine. The older schools of dental teaching are still operating through more than 95 per cent. of the dental profession. The sooner the medical profession realizes that the stereotyped argument that the dental pulp is merely a *formative* organ of teeth and when the tooth is fully formed its function ceases, the sooner will this subject cease to be discussed. The human dentin consists of an infinitesimal number of dental tubuli. In the living tooth there is a protoplasmic exchange between the dental pulp from within and the pericementum surrounding the outside of the tooth root from without. Once the dental pulp is devitalized, this protopalsmic exchange, and also the physiologic functioning of the tooth, is destroyed. All the contents of these dental tubuli then go on to putrefaction, and no amount of embalming with formaldehyd or sealing with gutta-purcha can ever prevent this process. To a medical mind it would be just as feasible to remove the marrow from the femur and insert a piece of gutta-percha the size of a child's broom-handle and expect it to keep the femur alive.

The fact that teeth are ectodermal and remain in the dental alveolus by a process of pathologic ankylosis is no scientific argument for their retention.

H. A. TUCKEY, San Francisco.

[COMMENT.—So far as we know, all evidence at hand indicates that the vitality of the cementum, which covers the dentin of the root of the tooth, is maintained by the peridental membrane, and that the vitality of the dentin is maintained

through the pulp. So far as we understand the histology of the teeth, there is no means of transmitting sensation from the peridental membrane through the tooth. When the peridental membrane is inflamed, pain is transmitted through the investing tissues of the tooth.

The basis for the last two statements in the letter of Dr. Cluthe is not quite fully understood, but we presume that it relates to the amount of peridental membrane which must be destroyed before one would decide to extract a tooth. We think that no definite limit can be placed, as the conditions must be studied in each case. There also seems to be a question as to when a tooth may be considered a "dead" tooth. There really is no such thing as a dead tooth, except one that has been extracted. The pulp may die, thus preventing further nourishment to the dentin, and we should speak of this as a pulpless tooth. If all the peridental membrane is dead, the tooth is then fully detached from the other tissues, and would not be retained in its socket.—ED.]

UREMIA, ALKALOSIS, TETANY AND CARDIAC FAILURE

To the Editor:—The interesting case reported by Harrison and Perlzweig (THE JOURNAL, February 28, p. 671) has many points of resemblance to a case I have seen, in which, in addition to the uremia, there was alkalosis independent of the administration of alkali, and tetany. It was thought that the tetany had been induced because of the loss of chlorids, incident to persistent vomiting for a period of about thirty hours, and the development of an alkalosis; at any rate, replacing some of the chlorids by means of subpectoral injections of saline solution almost immediately relieved this distressing condition. Unfortunately, no check was made after this of the alkalosis, as the case terminated fatally during the next twenty-four hours. Necropsy was not obtained.

A man, aged 67, seen, February 7, in his room in a hotel, apparently had been in good health, and two nights preceding had gone out with friends and had a few drinks. The day following he complained of not feeling well, did not care to eat, and later in the day began to vomit. This vomiting was repeated every hour or so during the night. He was seen the next day and sent to St. Joseph's Hospital. His vomiting continued at intervals, and tap water was given by rectum. In the meantime a catheterized specimen of about an ounce of highly concentrated urine had been obtained, which contained albumin, casts and red blood cells, and gave a reaction for acetone. Later in the evening I was sent for because the patient had painful spasms in the arms and legs. The blood chemistry report showed 118 mg. of nonprotein nitrogen, and creatinin, 3.1 mg. per hundred cubic centimeters. The alkali reserve (Van Slyke) was 71. These painful seizures answered all the requirements of tetany. Particularly was Trousseau's sign in evidence, and members of the family were prolonging the patient's distress by vigorously massaging the painful members. Physiologic sodium chlorid solution, 500 c.c., was given subpectorally, repeated in three hours on the opposite side. This was kept up all night, with constant tap water by bowel. Within an hour after the administration of the saline solution, the tetany had disappeared. It did not return.

During this time, blood pressure was maintained with difficulty. Under active stimulation, a reading of 115 systolic and 95 diastolic was obtained. There were periods, however, when the pressure would not register. The pulse varied with the pressure. There was no edema, but cyanosis and dyspnea persisted. Accompanying this was an almost complete suppression of urine, only an ounce or so being obtained by catheter every eight hours. Within the next twenty-four hours the patient became more stuporous, with Cheyne-Stokes respiration and increased cardiovascular impairment. He died at 3 a. m., February 10, about fifty-eight hours after being admitted.

WILFRED S. DENNIS, M.D., Denver.

CONTROL OF VENEREAL DISEASES IN EGYPT

To the Editor:—The following is a translation of a summary prepared by Dr. Fakhry M. Farag, whose book on "Method of Combating Venereal Disease" has been recently published in Arabic. I have seen the film "Gift of Life" of the American Social Hygiene Society presented twice in the American University, each time to a large audience. Venereal diseases are increasing rapidly in Cairo and Alexandria, and the new leaders of the Egyptian medical profession are attempting to combat this evil. The Egyptians, like the Japanese, are waking up to the value of modern medicine.

JOSEPH C. BLOODGOOD, M.D., Baltimore (Cairo, Egypt).

The following is the outline prepared by Dr. Fakhry M. Farag for the Egyptian government:

METHODS OF COMBATING VENEREAL DISEASES IN EGYPT

1. Combating the influence of prostitution on the progress of venereal diseases:
   (a) Improvement of the system of medical examination of prostitutes.
   (b) Locking up of diseased prostitutes until they get cured enough to be noninfectious to their visitors.
   (c) Prohibiting men younger than 21 years from visiting brothels.

   In case the "capitulations," in any way, hinder the carrying out of these steps, then the "abolition" system would be rather better for Egypt, where the government can do nothing except to control very badly and inefficiently about 7,000 miserable native prostitutes.
2. Supplying the public with all the possible means of getting easy access to prophylactics against, and medical treatment of, venereal diseases.
3. Improving the educational system in a way that may supply the different classes of the youth of the country with sufficient sound information on sexual matters.
4. Insertion of religious teaching in school programs with the object of teaching religious morals rather than religious dogmas.
5. Establishing the system of *Krankenkassen* for students of government high schools.
6. Construction of a venereal disease museum open to the public.
7. A trial to get reliable statistics of the progress of venereal diseases in special communities.
8. Establishing a branch in the press bureau for the control of medical and pharmaceutic advertisements.
9. Prohibition of quacks and druggists, under severe penalties, from prescribing for or treating venereal diseases.
10. Formation of a royal commission to study the conditions of venereal diseases and the methods of fighting them in the country.
11. Formation of a society for combating venereal diseases in Egypt.
12. Representation of Egypt in all future international congresses for combating venereal diseases.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

USE OF CANNABIS INDICA

To the Editor:—I am very much interested in the physiologic action of cannabis indica, or marihuana, as it is called in Panama and on the Canal Zone, where it is smoked in the form of cigarets. I understand that the leaves and flowering tops are smoked extensively in India, where it is sold in the bazaars under the name of gunjah. Any literature that you may be able to recommend or send me concerning the smoking of marihuana or gunjah will be greatly appreciated.

G. E. HESNER, M.D., Corozal, C. Z.

ANSWER.—Much that is fanciful has been written of the action of cannabis indica on the human mind. Comparatively little authoritative, controlled experimental work has been recorded. It is difficult, therefore, to separate fiction from fact in the literature. Undoubtedly, part of the confusion and contradictions have arisen from the fact that the drug may produce very different effects on different persons or (possibly) in the same person at different times; that the drug may vary greatly in the amount of the active principle (cannabinol) that it contains; and possibly, also, that the mind of the oriental may be influenced by cannabis in a different way from that of the occidental, just as opium is believed by many observers to affect the Mongolian race in a manner different from the Caucasian. Schneider (*J. Am. Pharm. A.* **11**:208, 1922) reports having taken large doses of cannabis indica internally, so far as possible recording his sensations. He observed marked diuretic effects, which apparently were independent of the mental symptoms.

The following statements are quoted chiefly from Poulsson (Textbook of Pharmacology and Therapeutics, Dixon's translation, 1923), which reflect the European opinion: The imagination is more untrammeled than in any other form of intoxication, and the intoxicated person, even in the wildest flight of ideas and the most exuberant hallucinations, retains a remnant of reality; he has a dim idea that he is only in a pleasant dream state, and can give more or less sensible answers when addressed. The action generally begins with a feeling of warmth and heaviness in the head, sounds as of rushing water, and a motley of color hallucinations of incomparable beauty. Later on, the ground seems to disappear beneath the feet; there is a feeling of being snatched away from this world; the body, freed from all weight, floats through space in a condition of the greatest physical and psychic well-being, and in alluring dreams, which for a short time transport orientals to a paradise endowed with Mohammedan ideals. Sometimes the dreams are of a rapidly changing nature in which tears alternate with laughter, occasionally only of a sad or terrifying character, thus engendering deep depression or giving rise to a desire for destruction and fits of mania. The feeling of pain is lessened, and the sense of touch is blunted. The intoxication gradually deepens; there are periods of unconsciousness, and, in conclusion, a deep sleep ensues, from which the subject awakes feeling perfectly well. Moderate indulgence in hashish is said to have no injurious effects, and does not induce constipation. Exaggerated misuse causes general debility and often permanent insanity.

COMPATIBILITY OF QUININ AND ACETYLSALICYLIC ACID — "QUINOTOXIN"

To the Editor:—In the Ohio State University accident, could the mixture of quinin and aspirin have made a poisonous combination? A few years ago you said it did. Would it not be good to call attention to this combination? Please tell me the poison that quinin and aspirin make when combined. E. L., M.D., Rockford, Ill.

Answer.—Independent investigators have definitely shown that long continued heating of some of the cinchona alkaloids, particularly quinin, with weak organic acids (such as acetic, acetylsalicylic acid) caused the formation of an isomer, commonly called by the erroneous name "quinotoxin" but more properly named quinicin. These isomers were reported to be quite poisonous. This led to warnings against the combining of acetylsalicylic acid and quinin, some authors even attributing the toxic effects of quinin to the formation of these isomers. In 1915, The Journal (Incompatibility of Quinin with Aspirin and Other Organic Acids, Dec. 18, 1915, p. 2187) stated that "the subject has not been studied sufficiently to make it possible to decide, in each case of supposed quinin poisoning, whether the toxic symptoms were due to overdose, to idiosyncrasy or to formation of quinotoxin or cinchotoxin in mixtures administered." Some time later, Sollmann reviewed the question of a toxic reaction from quinin and weak organic acids; he concluded (The Quinotoxin Myth, The Journal, April 9, 1921, p. 999) that:

> There is no occasion to fear toxic effects from the transformation of quinin into "quinotoxin" (more properly, quinicin). This substance is not especially toxic, and it could not be formed in sufficient quantities, if at all, in the body. It may be formed in prescriptions containing quinin and organic acids; but this would proceed very slowly and the quinicin would undergo further transformation into inactive products. Such solutions are perfectly proper if used within a few days. They should not be used after prolonged standing, when they become discolored and precipitated; not because they have become toxic, but because they have become inactive.

The toxicity of the quinin-acetylsalicylic acid mixture has also been studied by Ruddiman and Lanwermeyer (*J. Am. Pharm. A.*, November, 1924, p. 1009), not for the purpose of determining the possible presence of "quinotoxin" but for the purpose of determining whether or not the mixture of acetylsalicylic acid and quinin, after standing sufficiently long to mass and become brown-red, is any more toxic than the fresh mixture. They found that the mixtures of acetylsalicylic acid with quinin sulphate or quinin bisulphate do not change much in six months; a mixture of acetylsalicylic acid with quinin alkaloid will change much more quickly than with the sulphate. It is also interesting to note that these investigators found the toxicity of the mixture to be *slightly* more than that of quinin alone—due, however, to the fact that the acetylsalicylic acid increases the toxicity of the quinin and not to the presence of a decomposition product, thus confirming Sollmann's assertions. They also report that an old mixture of quinin and acetylsalicylic acid which on standing for a long time had changed to a brown-red mass is no more toxic than the fresh mixture.

According to the newspaper reports, the cause of the recent deaths of the students at Ohio State University has been definitely established as due to strychnin poisoning.

GONOLIN FOR GONORRHEA

To the Editor:—Has the Council on Pharmacy and Chemistry reported on the gonolin treatment for gonorrhea?

B. Frank Horne, M.D., Conway, N. H.

Answer.—The Council on Pharmacy and Chemistry has not reported on Gonolin, which, according to the advertising enclosed with our correspondent's letter, is prepared by the Horovitz Biochemic Laboratories Company, New York.

The involved and indefinite statements that appear in the advertising matter are reminiscent of certain products with which the name of A. S. Horovitz has been associated; namely, Autolysin, the Proteogens of the William S. Merrell Company and the Horovitz Protein Substances of the Horovitz Biochemic Laboratories Company of Cincinnati.

Autolysin was discussed in The Journal, July 24, 1915, page 336, and Nov. 6, 1915, page 1647. A report of the Council on Pharmacy and Chemistry on Proteogens appeared in The Journal, July 12, 1919, page 128, and was commented on editorially in the same issue. The Council on Pharmacy and Chemistry reported on "Lipoidal Substances (Horovitz)" in The Journal, Feb. 25, 1922, page 600. "Number 10 Protein Substances" was the subject of a Query and Minor Note in The Journal, Jan. 6, 1923, page 54.

VITAMINS IN OLIVES

To the Editor:—What effect does the lye have on the vitamins in the curing of ripe olives? Is there any better way of curing them than by the use of lye? Julius Gilbert White, Sacramento, Calif.

Answer.—Olives contain a small proportion of vitamins. It would be difficult to say what the effect of the lye would be. In green pickling, the lye does not penetrate all the flesh, and some untreated flesh remains near the pit. However, the olives are leached with water, and much of the water-soluble vitamin would be removed.

In ripe pickling, the olives are oxidized to give a dark color. This might affect vitamin C. They are autoclaved at 250 C. for sixty minutes. This might reduce vitamin C, but probably would not materially alter A and B.

INSANITY AS GROUND FOR DIVORCE

To the Editor:—Under what conditions may the husband or the wife of an insane person obtain a divorce? ———, Illinois.

Answer.—If, at the time of marriage, either husband or wife is suffering from a mental derangement that prevents an adequate understanding of the nature of the marriage contract and intelligent assent to it, the aggrieved partner, on discovering that fact and on timely application to the court, may have the marriage annulled. Under the common law, insanity occurring after marriage is not ground for divorce. In a few states it has been made so by statute. In Illinois, the common law rule prevails. In those states in which insanity is not ground for divorce, marital misconduct—such as desertion, cruelty and, according to the weight of authority, even adultery—is not ground for divorce if it arises out of the insanity. The insanity excuses the misconduct.

OVA OF ASCARIS LUMBRICOIDES IN LIVER

To the Editor:—Can you refer me to anything written on (1) ova obtained by duodenal lavage; (2) anything relative to the unfertilized ova of *Ascaris lumbricoides* and the hepatic system as the habitat of the female worm? Robert S. Preston, M.D., Richmond, Va.

Answer.—1. We have been unable to find a report on ova of parasites found by duodenal lavage.

2. Fantham, Stephens and Theobald in "Animal Parasites of Man," 1916, quote Vierordt as authority that female ascarids can penetrate the liver and deposit eggs, which exceptionally undergo segmentation. Monserrat and Africa (*Philippine J. Sc.* **23**:459 [April] 1923) report a case, with necropsy findings, in which eggs of *Ascaris lumbricoides*, in various stages of segmentation, were found around an infiltrated portal area in the liver tissue. There have been numerous reports of *Ascaris lumbricoides* in the biliary passages.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, April 7-8. Sec., Dr. W. O. Sweek, 404 Heard Bldg., Phoenix.

ARKANSAS: Little Rock, May 12-13. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville; Sec., Homeo. Bd., Dr. Allison A. Pringle, Eureka Springs; Sec., Eclectic Bd., Dr. C. E. Laws, Fort Smith.

COLORADO: Denver, April 7. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 14. Sec., Dr. Edgar P. Copeland, 104 Stonebreigh Court, Washington.

HAWAII: Honolulu, April 13. Sec., Dr. Guy C. Milnor, 401 Beretania St., Honolulu.

IDAHO: Boise, April 7. Dir., Mr. Charles Laurenson, Boise.

ILLINOIS: Chicago, April 14-16. Supt. of Regis., Mr. V. C. Michels, Springfield.

MINNESOTA: Minneapolis, April 7. Sec., Dr. Thomas McDavitt, 734 Lowry Bldg., St. Paul.

MONTANA: Helena, April 7. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

NATIONAL BOARD OF MEDICAL EXAMINERS: Written examinations in Class A medical schools. Parts I and II, June 24-26. All applications for this examination must be made on or before June 1. Sec., Dr. J. S. Robinson, 1600 Walnut St., Philadelphia.

NEVADA: Carson City, May 4. Sec., Dr. S. L. Lee, Carson City.

NEW MEXICO: Santa Fe, April 13-14. Sec., Dr. W. T. Joyner, Roswell.

OKLAHOMA: Oklahoma City, April 14-15. Sec., Dr. J. M. Byrum, Shawnee.

UTAH: Salt Lake City, April 7. Dir., Mr. J. T. Hammond, State Capitol, Salt Lake City.

Kansas February Examination

Dr. A. S. Ross, secretary, Kansas Board of Medical Registration and Examination, reports the written examination held at Topeka, Feb. 10, 1925. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Six candidates were examined, all of whom passed. Nine candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1910)	90.2
Loyola University	(1924)*	92.2
Kansas Medical College, Topeka	(1897)	86.6
Kansas City Medical College	(1901)	89.4
Washington University Medical School	(1923)	89.5
Meharry Medical College	(1924)	83.5

College	LICENSED BY RECIPROCITY Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1898)	Nebraska
Loyola University	(1918)	Illinois
University of Illinois	(1924)	Illinois
University of Louisville	(1913)	W. Virginia
Kansas City Hahnemann Medical College	(1909)	Montana
Lincoln Medical College	(1907)	Nebraska
University of Nebraska	(1921)	Nebraska
University of Pennsylvania	(1922)	Penna.
University of Western Ontario	(1924)	Ohio

*This candidate has completed his medical course, and will receive his M.D. degree on completion of a year's internship in a hospital.

Minnesota January Examination

Dr. T. S. McDavitt, secretary, Minnesota Board of Medical Examiners, reports the oral, written and practical examination held at Minneapolis, Jan. 6-8, 1925. The examination covered 15 subjects and included 80 questions. An average of 75 per cent. was required to pass. Forty-seven candidates were examined, all of whom passed. Fourteen candidates were licensed by reciprocity, and one by endorsement of credentials. The following colleges were represented:

College	PASSED Year Grad.	Per Cent.
Georgetown University	(1924)	88.5
Northwestern University	(1924, 2)*	87, 89.6
Rush Medical College	(1924)*	90
University of Minnesota	(1924, 30)†	94.8, 86.2, 87, 87.3, 86.4, 87.6, 87.8, 86.9, 86.5, 87.1, 87.5, 87.7, 87.8, 87.8, 88, 88.2, 88.1, 88.3, 88.5, 88.6, 88.9, 89, 89, 89, 89, 89.2, 89.3, 89.6, 89.6, 89.8, 89.9, 90, 90.2, 90.6, 90.7, 90.9, 90.9, 91.7
St. Louis University	(1924)	90.3
University of Pennsylvania	(1921)	89.3
University of Virginia	(1923)	89
McGill University	(1924)	87.9
University of Frankfort-on-the-Main, Germany	(1920)‡	85

College	LICENSED BY RECIPROCITY Year Grad.	Reciprocity with
Emory University	(1923)	Georgia
Rush Medical College	(1924)	Illinois
Sioux City College of Medicine	(1902)	Illinois
State University of Iowa College of Medicine	(1923)	Iowa
University of Michigan Medical School	(1909)	Michigan
Minneapolis College of Physicians and Surgeons	(1908)	Wisconsin
University of Nebraska	(1918)	Nebraska
Cornell University	(1914)	Wisconsin
Starling Ohio Medical College	(1913)	Ohio
University of Pennsylvania	(1920)	N. Carolina
University of Virginia	(1922)	Virginia
Marquette University	(1924)	Wisconsin
Queen's University	(1907)	N. Dakota
University of Christiania, Norway	(1915)	Wisconsin

College	ENDORSEMENT OF CREDENTIALS Year Grad.	Endorsement with
University of Minnesota	(1921)	N. B. M. Ex.

*This candidate has completed his medical course, and will receive his M.D. degree on completion of a year's internship in a hospital.

†This candidate has completed his medical course and received an M.B. degree, and will receive his M.D. degree on completion of a year's internship in a hospital.

‡Graduation not verified by the American Medical Association.

Medical Economics

ROENTGENOGRAMS AS EVIDENCE

A roentgenogram is not admissible in court as evidence until after it has been authenticated. It must first be shown by one or more competent witnesses what the roentgenogram is and that it pictures accurately what it purports to show. For this purpose a witness may testify (1) that the roentgenogram shows accurately what he saw when he looked through the fluoroscope into the body portrayed, or he may show (2) that he is skilled in the use of the roentgen-ray machine and in taking and developing roentgenograms, that he took the roentgenogram offered in evidence, or saw it taken, with the body in a stated position, with a machine he knew to be accurate and in good working order, and that from his experience he knows that the roentgenogram accurately represents the internal condition of the body roentgenographed. These two methods of authentication are, however, not exclusive; any other satisfactory evidence that establishes the authenticity and accuracy of a roentgenogram will establish its admissibility.[1]

A witness undertaking to establish the authenticity of a roentgenogram must be able to state how he identifies it. Unless it has been in his custody ever since it was taken, he may be made an innocent party to fraudulent substitution, or a substitute roentgenogram may be submitted to test the accuracy of his identification of the one said by him to be authentic. Accidental substitution, however, through carelessness in marking and filing is more likely, and this may happen even though the roentgenogram comes from his own files.

Blaine[2] described a method of marking by lead stencils cut for each case and roentgenographed at the time of the exposure. He regards this as superior to the use of movable opaque letters and figures. When it can be shown that a roentgenogram comes from proper custody and is identified by marks made either by stencil or by movable letters and figures, its authenticity may be regarded as sufficiently established. The fact remains, however, that if one roentgenologist can use a stencil machine or movable letters and figures for the identification of roentgenograms produced by him, another roentgenologist may use a similar machine or similar figures to make similar markings with fraudulent design or for the sole purpose of confusing and discrediting the witness.

To guard against the possibility of the deliberate substitution of roentgenograms and to provide a convenient and economical method of identifying them, the method recommended by Taft[3] seems better. By this method the marks

1. Stevens v. Ill. Cent. R., 137 N. E. 859, J. A. M. A. 84:239 (July 21) 1923.

2. Blaine, E. F.: Standardization of X-Ray Exposure Identification, Am. J. Roentgenol. 10:303 (April) 1923.

3. Taft, R. B.: Film Marking by a New Method, Am. J. Roentgenol. 12:390 (Oct.) 1924.

can be made to appear in the handwriting of one or more persons, and the chance of trickery or mistake is reduced more nearly to the chance of forgery of handwriting. Taft experimented unsuccessfully with such solutions as sodium bromid, silver nitrate and mercuric chlorid. Heavy insoluble substances, such as barium sulphate, mercuric iodid and lead oxid, suspended in mucilage would not flow from a pen, and even when painted on with a brush gave unsatisfactory results. Crayons in which such substances were incorporated were too friable for practical use. He reports that he obtained satisfactory results, however, by using as a writing fluid a mixture of about 25 per cent. of standard mucilage of acacia added to ordinary ink, used in conjunction with powdered metallic lead. By means of a heavy stub pen, the mucilage-ink mixture is used for writing the identifying marks on slips of paper. Before the mixture has had time to dry, the writing is sprinkled with the powdered metallic lead. The excess is shaken off, and a thick ribbon of lead is left enmeshed in the mucilage-ink mixture, thus outlining in lead what has been written. The slip of paper thus marked is placed alongside the part that is to be roentgenographed, and the exposure is made in the usual way. The lead-writing appears on the roentgenogram.

Dr. William J. Manning, of Washington, D. C., has suggested the practicability of using finger prints for the identification of roentgenograms. Experimentally a finger print was made on a film holder, a mixture of white lead in oil and barium sulphate being used. When the film was developed, the finger print showed on it with sufficient clearness to permit its being easily identified with the finger print on the film holder.

In any medicolegal case the roentgenologist must guard against being made the victim of impersonation of the alleged injured party by some one substituting for him. In any case known to have medicolegal bearings, the roentgenologist will do well to make sure that the person whom he is about to roentgenograph is the person he represents himself to be. He should be prepared, so far as may be possible, to identify in court the person roentgenographed as the same person whose condition the roentgenogram portrays. Such personal identification may be difficult for the busy roentgenologist, who may see the patient but once and for a short time only. Obviously, the method proposed by Taft can be made to aid in such personal identification, for a specimen of the handwriting of the person roentgenographed can be made to appear on the roentgenogram. If that method is not followed, the roentgenologist can facilitate subsequent proof of the identity of the person roentgenographed by having him affix his signature to the office record of the case at the time the roentgenogram is taken. Either this can be done as a matter of routine in medicolegal cases, or some plausible reason can be found for asking for such a signature in those cases in which the roentgenologist desires to preserve a record.

To reduce to a possibly irreducible minimum the chances for substitution, it might be well to have each roentgenogram identified not only by signature or finger print of the roentgenologist, but also by signature or finger print of the person who is to be roentgenographed. The presence of marks identifying the roentgenogram with both parties would not only facilitate identification of the roentgenogram itself, but would make more difficult impersonation of the plaintiff at the outset of the case or subsequent substitution of a fraudulent roentgenogram. Identification will always be greatly facilitated and strengthened when it can be established that the roentgenogram offered in evidence has been constantly in the proper custody since it was taken; and this means under lock and key.

The roentgenologist who, from the very beginning, prepares to meet all possible demands that may be made to establish the admissibility as evidence of the roentgenogram he produces will do much to save the court, counsel and himself all unnecessary difficulty and annoyance later. It is too late after the trial is under way to go back and make good any shortcomings that occurred in the beginning.

Book Notices

Séméiologie oculaire. Le diaphragme irido-ciliaire. Anatomie-physiologie-pathologie. Par Félix Terrien, Professeur agrégé à la Faculté de médecine de Paris. Paper. Price, 25 francs net. Pp. 234, with 126 illustrations. Paris: Masson et Cie, 1924.

This is the second of the series of monographs published by this author on a limited section of the eye, and deals with the iris and ciliary body from the standpoints of anatomy, physiology and pathology. Necessarily, other phases of ophthalmology are included, such as certain aspects of refraction and sympathetic ophthalmia. These are sketched rather hastily, and no undue emphasis is placed on them. The anatomic parts of the book are well written and contain no unnecessary detail, although there are certain bald statements made that have not yet received general acceptance. For instance, it is not universally acknowledged that the optic nerve contains separate fibers to conduct visual sensation and pupillomotor impulses. The descriptions of inflammations of the iris are good, but would be better were they embellished with some of the details made known by modern slit lamp examinations (biomicroscopy). The author evidently uses the slit lamp, but not as a routine. From the American standpoint, the etiology of iridocyclitis is handled in a way that leaves much to be desired. Syphilis does not have the importance here that is ascribed to it by the author, and rheumatism has come to be regarded as a symptom of the same systemic infection that causes the coincidental iridocyclitis, not as a causative factor. Focal infection is scarcely mentioned. Thirty pages are devoted to glaucoma in all its manifestations, and what there is is good. The printing of the book is excellent, and no typographic errors were observed; but the binding is poor. Profuse illustrations are employed; the diagrammatic sketches and reproductions of pathologic sections are clear and illustrative of the subject matter; the actual photographs of patients are indistinct and merely take up valuable space. Evidently, the author is a clear-thinking, practical ophthalmologist who presents his own views in this book in an interesting manner.

Psychology of Early Childhood up to the Sixth Year of Age. By William Stern. Supplemented by Extracts from the Unpublished Diaries of Clara Stern. Translated from the Third Edition and Revised by Anna Barwell. Cloth. Price, $5. Pp. 557, with illustrations. New York: Henry Holt & Company, 1924.

This book is in its third edition in German, from which the present first American edition is translated. It is based largely on the observations of the author and his wife of their own three children, but also on an extensive study of the available German and French literature. The first edition was published in 1914; since that time, many new points of view have been brought to light and the author has kept pace with this material, so that the present volume includes comment on the Montessori system and modern tests of the child's intelligence. Of particular interest are the careful considerations of speech development, to which several chapters are devoted, and the outline of normal speech development. Chapters then follow on memory and learning and on the place of fantasy in child life. The work deals with the life of the child from the first to the sixth year, but takes up also the study of music, the formation of thought and intelligence, and the place of suggestion and repression in developing the child's ego. The authors conclude that punishment is indispensable in dealing with unprofitable actions. They take up in this connection appropriate forms of punishment and the effects of such punishment as tested on the three children of the Stern family.

IRRTÜMER DER RÖNTGENDIAGNOSTIK UND STRAHLENTHERAPIE. Von Prof. Dr. R. Grashey. Irrtümer der Allgemeinen Diagnostik und Therapie sowie deren Verhütung. Vierten Heft. Herausgegeben von Prof. Dr. J. Schwalbe, Geh. San.-Rat in Berlin. Paper. Price, $3.95. Pp. 476, with 259 illustrations. Leipsic: Georg Thieme, 1924.

The first part, which comprises almost half of this book, deals with mistakes and sources of error in roentgenologic diagnosis, and their prevention. The second part deals with errors and dangers in roentgenotherapy, and their prevention. The third part is a discussion of errors in light therapy, and the fourth part is devoted to errors in radium therapy. In the portion dealing with roentgenologic diagnosis, mistakes in the technic of fluoroscopy as well as errors in the detail of roentgenography, with the resulting confusion caused thereby, are pointed out. The portion dealing with errors and dangers of roentgen-ray therapy is of exceptional interest. Holfelder contributes an unusually valuable discussion on the poisonous action of roentgen rays; idiosyncrasy to roentgen rays; the latent period of the action of the rays; the time required to determine the dose administered; the dose required; the disadvantage of administering too little and the dangers of excessive dosage; the dosage required for specific tissues; the effect of distance and the absorption in the tissues; filtration; methods of measuring dosage, and the dosage in cross-firing. The usefulness of the book is enhanced by a good general index, and each chapter is preceded by a carefully prepared list of contents.

HYGIENIC FUNDAMENTALS OF FOOD HANDLING. By Charles Thom and Albert C. Hunter of the Microbiological Laboratory, Bureau of Chemistry, United States Department of Agriculture. Cloth. Price, $3. Pp. 228, with 21 illustrations. Baltimore: Williams and Wilkins Company, 1924.

The authors have had wide laboratory and field experience in their official capacity as experts of the Bureau of Chemistry. The book includes discussions of food preservation, spoilage, food poisoning and food infections and pertinent topics. Special chapters are devoted to eggs, milk and its derivatives, fish, shellfish, poultry and meats. The atmosphere of the book is somewhat contentious, the irritation of the official with those who oppose or differ being shown in such expressions as "quibbling," "propaganda" and "misleading headlines." There will be little dissent, however, from one of the author's main "contentions," that the consumer should be protected in every reasonable way and always given the benefit of the doubt. On the whole, the book while dogmatic and sometimes quite unscientific contains much information of value. It is not infallible as, in the light of recent events, the following quotation makes evident: "Careful control of the quality of the shellfish reaching the consumer has practically eliminated the danger of typhoid fever from the consumption of oysters."

DER PHOTOGRAPHISCHE PROZESS. Photographie und Röntgenographie. Von Dr. Raphael Ed. Liesegang, Universitäts-Institut für physikalische Grundlagen der Medizin zu Frankfurt a. M. Band 3. "Radiologische Praktika." Cloth. Pp. 55. Frankfurt: Keim & Nemnich, 1924.

This pamphlet is technical, although the author probably succeeded in choosing terminology understandable by a reader who is not well versed in chemistry. The principles of photography and their application to the production of roentgenograms are elucidated. Particular attention is paid to the description of the technic of developing roentgen-ray pictures, and valuable practical hints in avoiding mishaps are given. A special chapter is devoted to the discussion of colored photographs. This book may be considered a valuable guide for the beginner.

GUY PATIN AND THE MEDICAL PROFESSION IN PARIS IN THE XVIITH CENTURY. By Francis R. Packard, M.D., Editor of Annals of Medical History. Cloth. Price, $4. Pp. 334, with illustrations. New York: Paul B. Hoeber, Inc., 1925.

This book is based on articles that appeared first in the *Annals of Medical History*. It is a scholarly production of interest to readers and students of medical history. Scattered through the pages are many letters by Guy Patin, and, altogether, there is reproduced an engaging picture of the medical life in Paris of the seventeenth century.

Medicolegal

Validity of Proceedings for Revocation of License

(State ex rel. Hurwitz v. North et al. (Mo.), 264 S. W. R. 678)

The Supreme Court of Missouri, Division No. 1, in affirming a judgment for the defendants which sustained the action of the state board of health in revoking for a period of fifteen years the license of relator Hurwitz to practice medicine and surgery in Missouri, says that the prosecuting attorney of Jasper County filed a complaint with the board charging that the relator was guilty of unprofessional and dishonorable conduct in that he produced a criminal abortion, and praying that the board make inquiry and revoke the license of the relator. Due notice was given the relator, and a time was fixed for a hearing. The board heard the evidence, having the same recorded and preserved, as required by law.

Relator's first attack on the record of the board alleged that the complaint purported to be filed by the prosecuting attorney, whereas there was no authority in law for that officer to file it. However, the statute does not specify nor limit the persons by whom such complaints may be made. It may be true that the statute fixes the duties of a prosecuting attorney, and they do not cover a compalint of this kind. But the complaint did not appear to be on his oath as prosecuting attorney, except by the language following the name, which could be considered either as surplusage or as a mere description of the person. This court feels that the complaint and charges as made were (so far as this contention was concerned) sufficient properly to invoke the jurisdiction of the state board of health. The statute is certainly broad enough to permit any citizen to prefer the charges, and a person is not deprived of ciitzenship by occupying the office of prosecuting attorney.

The second contention on behalf of the relator was that the state board of health had the power to issue process for witnesses and books and papers, and that the board abused its discretion and wronged the relator in refusing to issue the subpenas that he requested. No claim was made that there was express statutory authority to that end, but it was urged that there was implied power within the terms of the statute. This court does not believe that the statute confers the power, even by implication, for the issuance of compulsory process either for witnesses or for books and papers, and the court so rules. It was within the power of the lawmakers to give authority for these hearings, and to prescribe just how the facts were to be obtained therefor. Moreover, the court does not agree with the relator's further contention that, giving the statute the construction stated, then the statute violated the due process clauses of both the state and federal constitutions in that it authorized the taking of his license (a valuable right) without a hearing or trial before a tribunal of competent jurisdiction.

Due process of law requires a hearing after due notice—an opportunity to defend the right involved, before a legally constituted body for determining such right. The statute under consideration not only grants all these things, but it provides also for a court review. From a full consideration of the law, this court is of the opinion that the statute (Section 7336 of the Revised Statutes of 1919) gives physicians ample means for making a full defense to charges filed against them before the state board of health, and therefore is not violative of due process constitutional provisions. This section does not do violence to those provisions because it provides for the evidence to be submitted by deposition rather than by the compulsory personal attendance of witnesses. The relator was not entitled to subpenas, and the board could not issue them; but he could have introduced his evidence, if any he had, by way of deposition. In this way he could have had compulsory process for witnesses. The officer taking the depositions could compel attendance, and compel the giving of testimony. In this court's judgment, the relator had a fair disposition of his case, and has reaped a just reward for his conduct.

It should be added that there is no substantial reason for postponing a proceeding like this until after the criminal prosecution is concluded.

Must Prove Injury from Delayed Treatment of Eye

(Galveston, H. & S. A. Ry. Co. v. Landeros (Texas), 264 S. W. R. 524)

The Court of Civil Appeals of Texas, in reversing a judgment for $2,500 that was rendered in favor of plaintiff Landeros for the loss of an eye, holds that when he alleged as a basis of recovery the failure to furnish prompt medical attention after the alleged injury by his being hit in the eye by a bit of rock or some similar object, it was incumbent on him to show that the alleged delay was the proximate cause of the alleged resulting injury. It appeared that, for about nineteen hours after the accident, the defendant's section foreman refused to give the plaintiff the necessary written permission to go for treatment to the company's physician, who then sent him to a hospital, where he arrived about twenty-four hours after the accident. But there was neither any testimony whatever as to the extent of the initial injury, that is, whether the hurt was at that time hopeless or so slight that it might have yielded to treatment, nor any as to whether the lack of earlier medical ministration brought about what otherwise could and would have been averted. No expert testimony was offered. Neither the physician who first examined the eye, nor the one who later at the hospital treated and took it out, was put on the witness stand. This hiatus in the record as to one of the essential elements of a case was not supplied by the suggestion which the plaintiff offered that such a result from delay in obtaining proper medical attention is the common experience of mankind, and therefore might be inferred without proof. Obviously, the proximate or immediate cause of the ultimate loss of so complicated an organ as the human eye, following an injury as to which neither the original extent nor the subsequent development in any wise is shown, is not a matter susceptible of determination from general experience. It being a concrete and particular physical state, resulting from exclusively individual conditions, plainly there can, in the nature of the case, be no common experience of mankind generally applicable to it; rather will there be necessary either the specific facts and circumstances obtaining, or, at least, the opinion of those having knowledge and skill in such matters. It certainly could not be legitimately presumed from any disconnected experience of the race, however general or common, that this particular eye, in a condition at the time we know nothing about, could and would have been restored to its normal condition as of before the injury, had there been no delay in its receiving medical aid. Of course, it might be inferred, from common knowledge about and proper appraisement of the value of skilled medical attention, that, had it been promptly administered in this instance, there would probably have been relatively less suffering to, and more likelihood of a cure for, this poor Mexican; but, under the case as made and limited by him, that deduction would get nowhere at all. For the company's dereliction in failing and refusing for nineteen hours to comply with its contract to furnish him medical attention and hospital service, in consideration of a monthly deduction of 50 cents from his wages, it could be held liable only for breach of contract, and not mulcted in damages as for tort, in which regard he mistook his remedy.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., May 25-29. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Birmingham, April 21-24. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Acting Secretary.

American Association of Anatomists, Cleveland, April 9-11. Dr. Lewis H. Weed, Johns Hopkins Medical School, Baltimore, Secretary.

American Association of Genito-Urinary Surgeons, Washington, D. C., May 4-6. Dr. Henry G. Bugbee, 40 East 41st Str., New York, Sec'y.

American Climatological and Clinical Association, Washington, D. C., May 4-5. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.

American Dermatological Association, Washington, D. C., May 4-6. Dr. Udo J. Wile, 9 Geddes Heights, Ann Arbor, Mich., Secretary.

American Gastro-Enterological Association, Atlantic City, May 25-26. Dr. John Bryant, 338 Marlborough Street, Boston, Secretary.

American Gynecological Society, Washington, D. C., May 4-6. Dr. Arthur H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.

American Laryngological Association, Washington, D. C., May 4-6. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 22-25. Dr. R. L. Loughran, 145 West 58th Street, New York, Secretary.

American Neurological Association, Washington, D. C., May 5-6. Dr. Frederick Tilney, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Washington, D. C., May 5-6. Dr. T. B. Holloway, 1819 Chestnut Street, Philadelphia, Secretary.

American Orthopedic Association, Washington, D. C., May 5-6. Dr. DeForest P. Willard, 1630 Spruce Street, Philadelphia, Secretary.

American Otological Society, Washington, D. C., May 4-5. Dr. T. J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, Washington, D. C., May 4-6. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Proctologic Society, Atlantic City, May 25-26. Dr. J. F. Montague, 540 Park Avenue, New York, Secretary.

American Psychiatric Association, Richmond, Va., May 12-15. Dr. E. D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Society of Clinical Investigation, Washington, D. C., May 4. Dr. J. H. Austin, University of Pennsylvania, Philadelphia, Secretary.

American Society of Clinical Pathologists, Philadelphia, May 21-23. Dr. Ward Burdick, Metropolitan Building, Denver, Secretary.

American Society of Tropical Medicine, Washington, D. C., May 5-6. Dr. B. H. Ransom, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

American Surgical Association, Washington, D. C., May 4-6. Dr. Robert B. Greenough, 8 Marlborough Street, Boston, Secretary.

American Therapeutic Society, Atlantic City, N. J., May 21-22. Dr. L. H. Taylor, The Cecil, Washington, D. C., Secretary.

American Urological Association, St. Louis, May 21-23. Dr. H. G. Hamer, Hume-Mansur Building, Indianapolis, Secretary.

Arizona Medical Association, Bisbee, April 16-18. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, Little Rock, May 13-15. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association of American Physicians, Washington, D. C., May 5-7. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.

California Medical Association, Yosemite National Park, May 18-21. Dr. Emma W. Pope, Balboa Building, San Francisco, Secretary.

Congress of Physicians and Surgeons of North America, Washington, D. C., May 5-6. Dr. W. R. Steiner, 646 Asylum Avenue, Hartford, Conn., Secretary.

Connecticut State Medical Society, Bridgeport, May 20-21. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Atlanta, May 13-15. Dr. A. H. Bunce, 65 Forrest Avenue, Atlanta, Secretary.

Hawaii, Medical Society of, Honolulu, April 24-27. Dr. Forest J. Pinkerton, 43-46 Young Building, Honolulu, Secretary.

Illinois State Medical Society, Quincy, May 19-21. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Des Moines, May 13-15. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Topeka, May 5-7. Dr. J. F. Hassig, 804 Elks Building, Kansas City, Secretary.

Louisiana State Medical Society, New Orleans, April 21-23. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 28-30. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore, Secretary.

Medical Library Association, Atlantic City, May 25-26. Miss H. Wilson, 535 N. Dearborn Street, Chicago, Secretary.

Medical Women's National Association, Atlantic City, May 25-26. Dr. B. M. Haines, Michigan Department of Health, Lansing, Secretary.

Minnesota State Medical Association, Minneapolis, April 27-29. Dr. E. A. Meyerding, 717 Commerce Building, St. Paul, Secretary.

Mississippi State Medical Association, Biloxi, May 12-14. Dr. T. M. Dye, McWilliams Building, Clarksdale, Secretary.

Missouri State Medical Association, Kansas City, May 5-7. Dr. E. J. Goodwin, 901 Missouri Theatre Building, St. Louis, Secretary.

National Association for the Study of Epilepsy, Richmond, Va., May 11-12. Dr. A. L. Shaw, 44 Church Street, Camden, N. Y., Secretary.

Nebraska State Medical Association, Lincoln, May 12-14. Dr. R. B. Adams, 1012 Terminal Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 19-20. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New York, Medical Society of the State of, Syracuse, May 12-14. Dr. E. L. Hunt, 17 West 43d Street, New York, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, April 28-30. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Fargo, May 18-19. Dr. Alex. J. McCannel, Minot, Secretary.

Ohio State Medical Association, Columbus, May 5-7. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Tulsa, May 12-14. Dr. C. A. Thompson, 308 Barnes Building, Muskogee, Secretary.

Radiological Society of North America, Atlantic City, N. J., May 22-23. Dr. M. J. Sandborn, 844 College Avenue, Appleton, Wis., Secretary.

South Carolina Medical Association, Spartanburg, April 21-23. Dr. E. A. Hines, Seneca, Secretary.

Tennessee State Medical Association, Nashville, April 21-23. Dr. J. F. Gallagher, Jackson Building, Nashville, Secretary.

Texas, State Medical Association of, Austin, May 5-7. Dr. Holman Taylor, 207½ West 11th Street, Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Public Health, Albany, N.Y.

15:95-187 (Feb.) 1925

Nursing for Maternity and Child Hygiene. M. S. Fraser, Winnipeg, Manitoba.—p. 95.

Can Diphtheria Be Eliminated? F. W. Sears, Syracuse, N. Y.—p. 98.

Community Child Health Survey. P. S. Platt and G. T. Palmer. —p. 102.

Dental Hygiene for Child. C. N. Johnson, Chicago.—p. 107.

Virginia's Attempt to Adjust Color Problem. W. A. Plecker, Richmond, Va.

Values in Maintenance of Health of Worker. E. R. Hayhurst, Columbus, Ohio.—p. 116.

Health Workers' Point of View. P. P. Jacobs.—p. 125.

Relationship Between Different Antibodies. A. W. Williams, New York.—p. 129.

Mosquito Control in New Jersey During Breeding Season of 1924. L. E. Jackson.—p. 131.

Is Indian Susceptible to Health Education? A. J. Chesley, St. Paul. —p. 133.

Modern Tendencies in Public Health Work. E. W. J. Hague, Winnipeg.—p. 137.

Medical and Nursing Service in Industrial Plants. O. Dowling.—p. 141.

American Review of Tuberculosis, Baltimore

10:501-632 (Jan.) 1925

*Pathology of Artificial Pneumothorax in Pulmonary Tuberculosis. L. U. Gardner, Saranac Lake, N. Y.—p. 501.

*Blood Flow Through Lungs in Experimental Pneumothorax. W. Dock and T. R. Harrison, Boston.—p. 534.

*Classification of Artificial Pneumothorax; Clinical Value of Several Types. R. A. Bendove, Bedford Hills, N. Y.—p. 548.

*Contralateral Lung in Pulmonary Tuberculosis Treated by Artificial Pneumothorax. R. W. Matson, R. C. Matson and M. Bisaillon, Portland, Ore.—p. 562.

*Contralateral Exudative Pleurisy Complicating Artificial Pneumothorax. A. Peters, Leonia, N. Y.—p. 583.

*Air Embolism and Artificial Pneumothorax. H. A. Bishop, Denver. —p. 591.

Respiratory Organs in Health and Disease. XX. Value of Vital Capacity Test in Artificial Pneumothorax Treatment. J. A. Myers and W. Bailey, Minneapolis.—p. 597.

*Suspension Stability Rate of Erythrocytes in Pulmonary Tuberculosis and Its Significance in Artificial Pneumothorax. E. Fischel, Duarte, Calif.—p. 606.

Partial Artificial Pneumothorax in Early Pulmonary Tuberculosis. M. J. Fine, Newark, N. J.—p. 630.

Pathology of Artificial Pneumothorax.—A postmortem study of fifteen cases of pulmonary tuberculosis treated by artificial pneumothorax is the basis of Gardner's paper. He found that artificial pneumothorax produces the greatest compression in the outer two thirds of the lung. Permanent anatomic alteration is dependent on the duration of compression rather than on the degree of pressure maintained. This alteration consists in the development of a fibrosis in the pleura and connective tissue coats of the blood vessels and bronchi. Such a fibrosis is always accompanied by a lymph stasis manifested by a distention of all lymphatic vessels at the periphery of the lung. Gardner suggests that lymph stasis is the primary cause of the fibrosis which follows, perhaps as the result of pressure and perhaps because of retained metabolic products which afford a toxic stimulation to the areolar tissues in the vicinity of the obstructed lymph vessels. The former explanation seems more probable. The blood vessels show great evidence of compression in the peripheral capillary bed. Endarteritis and thrombosis are frequently encountered. The beneficial therapeutic effect of artificial pneumothorax is, for the most part, due to an accentuation of healing in the tuberculous processes. Extension of disease within the compressed lung may proceed by way of the air passages and, to a more limited degree, through the lymphatic channels. Hematogenous metastasis is probably rare. The degree of permanent impairment of the lung by long continued artificial pneumothorax is dependent on the extent and degree of injury by the tuberculous process.

Blood Flow Through Lungs in Experimental Pneumothorax.—The volume flow of blood in normal rabbits, as determined by Dock and Harrison from the oxygen consumption, and the arterial and venous oxygen content, of rabbit's blood varies between 10 and 15 c.c. per hundred grams of body weight. Collapse of the right lung does not greatly affect the total volume flow, but causes a decrease in the arterial oxygen content, due to mixture of blood from the normal lung with blood of venous character which passes through the unaerated tissues. During the first few hours after such collapse with air, the lung does not become atelectatic and more than one half of the total flow is through the right lung during the first two hours after collapse. The collapsed lung becomes airless and solid within a few days of establishing a positive intrapleural pressure, and the proportion of blood passing through it falls to less than one fifth of the total flow. Since cyanosis is absent or slight in clinical pneumothorax, there is reason to believe that marked diminution in the flow of blood through the collapsed lung occurs in man. Hence, in the opinion of the authors, any therapeutic value of pulmonary collapse resulting from circulatory changes in the affected lung must be ascribed to ischemia.

Classification of Artificial Pneumothorax.—Bendove classifies artificial pneumothoraxes according to biophysical principles and laws, indicating as concisely as possible their corresponding therapeutic value. Three groups are recognized: expansile pneumothorax, pneumothorax of rest or static pneumothorax and compression pneumothorax.

Contralateral Lung in Pulmonary Tuberculosis.—Out of the 493 cases included in this study by Matson et al., the lung was collapsed in 345 cases. Of the 345 cases with collapse, 264 showed demonstrable disease in the opposite lung, eighty-two cases with well defined deep peribronchial infiltration, but in 182 cases the disease amounted to fibrocaseous infiltrations or disseminated bronchogenic caseous extensions. In these 264 cases progression of disease in the contralateral lung took place in twenty-four cases. The authors state that the contralateral lung, when diseased, should always be suspected when unfavorable clinical symptoms arise.

Contralateral Exudative Pleuritis.—Contralateral serous or exudative pleurisy is reported by Peters in three instances among 229 patients receiving pneumothorax treatment. It is usually associated with or preceded by a homolateral exudate. Per se, this complication is not necessarily grave, although the immediate symptoms may be very alarming. It is, however, commonly associated with a progression, of greater or less degree, of the tuberculous process in the corresponding lung, which, if it continues, foreshadows an unfavorable outcome. The pleurisy is itself a manifestation of a new tuberculous localization. Aspiration of the exudate is usually imperative and should not be delayed if the dyspnea is pronounced or cyanosis develops. The decision as to continuing pneumothorax treatment, however, will depend on developments in the contralateral lung itself. For the time being the pneumothorax is generally best let alone, or left in statu quo.

Air Embolism and Articial Pneumothorax.—Bishop relates a case with extensive pleural adhesions, the type of case in which artificial pneumothorax treatment is dangerous and difficult on account of unsatisfactory manometer readings and the liability of introducing the needle into the lung or transfixing a vessel in a highly vascularized pleura, in which attempts at inducing pneumothorax produced only a small air pocket surrounded by dense adhesions, which were firm and impossible to separate. After a number of refillings, when air was introduced under slightly positive pressure, the patient collapsed with total unconsciousness, accompanied by tonic spasms of the muscles of the right side of the face, extensors of back and lower extremities, and tonic spasm of the diaphragm and abdominal muscles, causing extreme cyanosis. His head was immediately lowered. Conjugate deviation of the pupils to the right accompanied the right facial spasm. The symptoms were characteristic of cerebral air embolism. The only pathologic evidence of cause of death was the presence of air in the cerebral vessels at necropsy.

Sedimentation Tests in Artificial Pneumothorax.—Sedimentation tests repeated at regular intervals, in many patients, have convinced Fischel that there is a satisfactory, though not complete, parallelism between the course of the disease and the changes in the sedimentation speed. Increased activity or a spreading of the diseased area is very often coincident with higher sedimentation values, whereas in most cases the sinking velocity decreases gradually and steadily the more all constitutional and physical symptoms subside and the more the general condition improves. The sedimentation test is very valuable and useful in patients who are being treated by artificial pneumothorax. In conjunction with the methods of clinical examinations it helps us to determine the effect of the compression and is a simple means of controlling the influence of the pneumothorax on the better side. The sedimentation test is of diagnostic value in doubtful cases of pulmonary tuberculosis. The prognostic value is not as great in pulmonary tuberculosis as in acute conditions, on account of changes which are sometimes observed in its chronic course. There is a marked difference in the sinking velocity between early, moderately advanced and far advanced cases, and between the fibrotic and ulcerative types of pulmonary tuberculosis. A standardization of the technic of the test is highly desirable.

Archives of Dermatology and Syphilology, Chicago

2: 149-282 (Feb.) 1925

*Painful Nodular Growth of Ear. O. H. Foerster, Milwaukee.—p. 149.
Erythredema: Case. J. Butler, Minneapolis.—p. 166.
XI. Epidermolysis Bullosa: Case. T. J. Calhoun and W. P. Brown, St. Louis.—p. 183.
*Mycotic Paronychia and Dermatitis. L. B. Kingery and C. H. Thienes, Portland, Ore.—p. 186.
*Multiple Hemorrhagic Sarcoma of Kaposi. G. J. Dillard and F. D. Weidman, Philadelphia.—p. 203.
*Acute Septic Pemphigus. A. Schalek, Lincoln, Neb.—p. 232.
*Severe Bleeding and Purpura Following Administration of Neo-Arsphenamin. C. M. Smith, Boston.—p. 237.

Painful Nodular Growth of Ear.—Eight cases are cited by Foerster. The remarkable uniformity in the clinical symptomatology, as well as in the histologic features of the cases of painful nodule of the ear recorded thus far by Winkler and Foerster indicates that the condition is an entity. It is readily differentiated from epithelioma, keratosis and other conditions which may resemble it, on the basis of both clinical and histologic characteristics. The etiology is unknown, although the anatomic peculiarities of the part of the ear almost exclusively affected are suggestive of the pathogenesis of the condition, and lend support to the foreign body theory advanced by Winkler. In all of the eight patients treated with the roentgen ray, pronounced relief from pain was experienced after the first dose, although tenderness persisted. Experience with other methods of treatment is lacking, but actively destructive measures, such as fulguration and the galvanocautery, are suggested when excision is refused and radiotherapy has failed.

Mycotic Paronychia and Dermatitis.—Apparently for the past five or six years at least, and perhaps longer, a cutaneous disorder commonly known as "fruit poisoning" has existed among the workers of certain canneries of the Northwest. The incidence is estimated as high as 33.3 per cent. of those employed. While the name implies an association with any of the fruits handled, continual emphasis is placed on the almost explosive epidemic-like outbreaks occurring at the time the pears pass through these factories. The symptomatology is that of a rather marked paronychia, characterized by inflammatory reaction, pain, and the actual loss of one or more nails. In addition, maceration, vesiculation and fissuring between and on the interdigital aspects of the fingers is frequently found, together with occasional patches of erythematovesicular dermatitis on the hands and forearms. The course is acute during the pear season. The continual immersion of the hands in the juice of the fruit, and the trauma incident to the peeling and coring processes apparently make for continual reinoculations and for exaggeration of the symptoms described. On the other hand, after the factories are closed, and the employees resume other occupations, the dermatitis gradually subsides, with occasional exacerbations. The paronychia may progress to the extent of loss of nails, followed by resolution, while in some patients the condition finally seems to clear entirely under the use of various home and professionally prescribed remedies. Kingery and Thienes state that cultures from several patients have uniformly revealed a yeastlike organism in pure culture. Animal and human inoculations with organisms thus obtained result in a clinical picture practically identical with known mycelial infections of the skin and exactly corresponding to the symptoms of patients suffering from the disease.

Multiple Hemorrhagic Sarcoma of Kaposi.—Two cases of this disease are reported by Dillard and Weidman. One of the patients died. A necropsy was performed. In this case, besides the cutaneous changes, a nodule was felt under the skin of the neck posterior to the left sternocleidomastoideus muscle. It was freely movable under the skin, was not discolored, and was considered to be an enlarged lymph node, which subsequent histologic examination confirmed. There were two groups of morbid anatomic changes which require particular attention in the light of Kaposi's disease. The first were circulatory (sclerosis). The second were the sarcomatous ones. The latter consisted in general of soft, bloody tumefactions in the urinary bladder, submucosa of the stomach and intestine and a generalized enlargement of lymph nodes, mostly of the ones regional to the gastrointestinal tract and extremities. There were altogether more than 100 brown or blood-red tumors distributed from the duodenum to the anus. They were perhaps more numerous in the duodenum than elsewhere, but were plentiful in all segments of the bowel. Some of the tumors, more particularly those at the tips of the rugae, were pedunculated. Similar tumors were found in the heart, stomach, testes and bladder. In the extremely hemorrhagic, pultaceous group of nodules in the gastrohepatic and one of the mesenteric nodes was found a fungus arranged as clumps of closely interlacing mycelia and few large spores, apparently terminal chlamydospores. The vascular and general proliferative features were no more marked near them than elsewhere; and with neither of these nodes could the idea of sarcoma be entertained. Animal experiments with this fungus were negative. The authors regard it as questionable whether the fungus invasion by way of the intestines is one of the causes of Kaposi's sarcoma.

Acute Septic Pemphigus.—Schalek's patient acquired the infection with pemphigus through an injury to his arm. The rapid course of the disease, the generalized eruption, the grave systemic symptoms and the early death point to a profound bacterial toxemia, constituting a classic picture of acute septic pemphigus. The bacteriologic observations, though not as successful as Eberson's, are sufficient to confirm his investigations and report of the identity and specificity of *Bacterium pemphigi*.

Purpura Following Neo-Arsphenamin Injection.—On two occasions, purpura developed in Smith's case within a few hours after an intravenous injection of neo-arsphenamin. The patient was not a "bleeder."

Archives of Internal Medicine, Chicago

35: 1-150 (Jan. 15) 1925

*Primary Carcinoma of Lungs. B. M. Fried, Boston.—p. 1.
*Intermittent (Impure) Auricular Flutter; Onsets and Offsets of Paroxysms; Effects of Vagus Stimulation. C. C. Wolferth, Philadelphia.—p. 42.
*Skin Capillaries in Raynaud's Disease. G. E. Brown, Rochester, Minn.—p. 556.
*Clinical Studies of Digitalis. II. Toxic Rhythms; Similarity Between Such Rhythms in Man and in Cat. D. Luten, St. Louis.—p. 74.
*Id. III. Advanced Toxic Rhythms. D. Luten, St. Louis.—p. 87.
*Pathogenesis of Tetany. M. Critchley, London.—p. 100.
*Block of Branches of Bundle of His. T. S. Hart, New York.—p. 115.
*Centripetal Venous Pulse in Man. H. L. White, St. Louis.—p. 124.
*Volume and Composition of Blood, and Changes Incident to Diuresis in Edema. G. E. Brown and L. G. Rowntree, Rochester, Minn.—p. 129.

Primary Carcinoma of Lungs.—Ten cases of primary carcinoma of the lungs are reported by Fried. The disease is apparently much more frequent than is commonly believed. Because of the similarity, from the clinical point of view, of primary lung cancer and a great many chronic lung affections, and particularly chronic pulmonary tuberculosis,

primary malignancy of the lungs is often mistaken for phthisis or other lung disease. Primary carcinoma of the lungs possesses a vigorous metastatic power. From the cases here reported, it seems that the tumor metastasizes very early, and the bones and brain are apparently much more frequently involved than is generally recognized. The bones may be infiltrated with tumor without producing any change in the outward structure. Fried suggests that in any case of chronic lung infection with an atypical course and persistence of symptoms, especially if tuberculosis is excluded, malignancy should always be considered. The presence of pulmonary tuberculosis does not exclude the coexistence of malignancy in the same organ.

Intermittent Auricular Flutter.—The two cases reported by Wolferth exhibited numerous fleeting paroxysms of abnormal auricular action closely resembling auricular flutter. The mechanisms of these paroxysms are regarded as forms of slightly "impure" flutter. The remarkable never failing brevity of paroxysms, their rapid and at times almost regular recurrence, furnished striking clinical pictures which deserve emphasis as a clinical entity. Furthermore, these cases are of interest since numerous onsets and offsets of clinical circus movement, of which hitherto there have been but few recorded, were obtained. It has therefore been possible to make certain new observations regarding the onset and offset of clinical circus movement and the effects of vagus stimulation and certain drugs on its incidence and duration. The most conspicuous effects of vagus stimulation were prolongation of paroxysms and exaggeration of slowing of auricular rate just preceding offset. Atropin in full physiologic dosage exerted no significant effect on the arrhythmia, except to improve auriculoventricular conduction. Quinidin and digitalis were both effective in suppressing the arrhythmia. Digitalis in moderate dosage decreased the arrythmia but did not abolish it. Following effective surgical treatment of hyperthyroidism, the arrhythmia disappeared completely.

Skin Capillaries in Raynaud's Disease.—The skin capillaries in eight cases of Raynaud's disease were studied by Brown during the different color phases exhibited by this disease. In the normal compensated periods, many of these vessels disclose evidence of disturbed capillary tone, abnormal flow or complete stasis. The degree in which these abnormalities exist determines in a large degree the color of the skin. The stage of syncope reveals many empty or partially filled contracted loops with stasis. The period of asphyxia is due to refilling of the capillary loops from segments of arterial or venous blood, or both, and dilatation of the loops with varying periods of stasis which determine the degree of cyanosis. The longer the cessation of capillary flow, the more pronounced is the capillary dilatation, and the greater the carbon dioxid content of the capillary blood. The recovery, or rubor phase, is due to resumption of capillary flow, more complete opening up of capillaries, pressure of oxyhemoglobin, and partial recovery of capillary tone. Additional evidence is presented to prove the existence of independent behavior of the skin capillaries.

Studies of Digitalis.—Four patients with normal cardiac mechanism developed temporary auricular tachycardia and atrioventricular dissociation after receiving large amounts of digitalis. The ventricular rate was more than 90 in all four cases. In two cases, the ventricular rate was more than 140. According to Luten the quantitative effects of large toxic doses of digitalis on the human heart thus closely parallel the quantitative effects of the drug on the heart of the cat in increasing the rhythmicity of cardiac muscle. The records of the two cases with independent ventricular tachycardia gave evidence also of impaired conductivity through the bundle branches. This evidence of impaired conductivity within the ventricle gives further support to the view that the effort of additional dosage further parallels the effect shown on the cat's heart in producing ventricular fibrillation.

Toxic Effects of Digitalis.—Three cases exhibiting toxic effects of digitalis are recorded by Luten, who explains these phenomena as follows: Digitalis intoxication results in a tachycardia which originates at or near the bifurcation of the main stem of the bundle. The action of the drug has also impaired to a considerable extent the conductivity of the bundle branches. An impulse is then transmitted over one (the right) branch but finds the other (the left), for the most part, unable at the moment, to transmit it. A small strand in the impaired left branch, however, does transmit the impulse, but at a slower rate. This gives the picture of defective (left) branch conduction. The next rhythmic impulse finds the bulk of the left branch restored and ready for conduction, but the bulk of the right branch has not recovered, and so fails to transmit the impulse. A small strand in the right branch, however, having been less impaired by digitalis, is able to transmit the impulse but at reduced speed. This produces the picture of defective right branch conduction. The bulk of the tissues of the right branch is then ready for the succeeding beat, but the main part of the left branch is not, and so on with successive rhythmic impulses.

Tetany.—Critchley summarizes his review as follows: Tetany is a metabolic disorder, characterized clinically by peripheral nervous hyperexcitability and by intermittent spasms of the limbs. It may arise either as a disease sui generis (idiopathic tetany) or as a complicating factor in the course of other morbid or physiologic states. Tetany is essentially an intoxication by nitrogenous by-products which may appear under a great variety of conditions. There is evidence that parathyroid upset is the cause of the symptoms in any variety except tetania strumipriva. The acid base mechanism and the calcium metabolism may be secondarily affected in tetany.

Lesions of Bundle of His.—The facts presented by Hart are based on a study of twenty-five cases. Apparently lesions of the right branch of the bundle of His are not uncommon. Lesions of the left branch are rare. The electrocardiagraphic curves of two cases associated with complete auriculoventricular block are presented and discussed. These lesions have been seen only in cases of advanced heart disease, and a high mortality is to be expected. The administration of digitalis produces conspicuous changes in the graphic records. Several curves are presented illustrating the clinical analogues of the dextrocardiogram, levocardiogram and bicardiogram which others have produced experimentally.

Centripetal Venous Pulse.—Evidence is presented by White that a pulse may pass from the arterial to the venous side of the circulatory bed in normal subjects, and can be demonstrated in the large superficial veins.

Blood in Edema.—In fourteen cases representing different types of edema the blood was studied by Brown and Rowntree in relation to the circulating total blood and plasma volume and its composition in both edema and postedema periods. Because of the confusion and inadequacy of terms relating to volume states, certain new terms are proposed. In the edema stage, an increased total circulating blood volume, simple hypervolemia was observed in certain of the cardiac and diabetic cases, but not in any case of edema of renal origin. No definite evidence was obtained to show that oligocythemic hypervolemia exists as a maintained state in edema, except possibly in the presence of a true anemia. A decreased blood volume with a decreased cell to plasma volume ratio, oligocythemic hypovolemia, was found in the four cases of glomerular nephritis. This is explained on the basis of the existing anemia, and apparently stands in no relation to the edema itself. The anemia is a true or absolute anemia and is not due to dilution. Simple normovolemia was found in all three uncomplicated cases of nephrosis. Studies of the composition of the blood revealed no fixed relationship between hydremia (increased percentage plasma water) and the volume state. Diuresis exercises no fixed influence on the volume and composition of the blood. Only minor changes characterize the disappearance of edema of renal origin and are probably, in some instances, related to compensatory efforts of the blood to establish normal cell plasma volume ratios. The cases of renal edema show the least fluctuation during diuresis. During diuresis, marked changes in blood volume were observed in certain cases of edema of cardiac or diabetic origin, representing variable adjustments in volume, solids and fluid factors. In diuresis the percentage

fluctuation in any one constituent of the blood does not necessarily reflect corresponding volume changes. Changes in blood solids may be partially or completely masked by fluctuation in water content in the absence of volume changes.

Archives of Neurology and Psychiatry, Chicago

13: 153-288 (Feb.) 1925

*Electrical Theory of Neural Energy. C. K. Mills, Philadelphia.—p. 153.
Nervous System in Light of Einstein's Interpretation of Energy. F. X. Dercum, Philadelphia.—p. 164.
*Torula Meningitis. L. L. Shapiro and J. B. Neal, New York.—p. 174.
*Unusual Cortical Change in Carbon Monoxid Poisoning. G. Wilson and N. W. Winkelman, Philadelphia.—p. 191.
Relation of Sympathetic Nervous System to Muscle Tone. A. B. Kanavel, L. J. Pollock and L. Davis, Chicago.—p. 197.
Brain Pathology. S. E. Henschen, Stockholm.—p. 226.

Electrical Theory of Neural Energy.—Mills' article is concerned chiefly with the cerebral and other structures that take part in the initiation and especially in the conduction of nervous impulses. He says that neural energy is most philosophically expressed in terms of electricity; it is electronic, according to the views of the latest physicists.

Torula Meningitis.—Shapiro and Neal report a case of torula meningitis in which the diagnosis was made within the first two weeks of the acute illness and within five days of the onset of symptoms involving the central nervous system. In spite of the fact that the boy was acutely ill for five months, with a constant fever, it was possible to keep him exceptionally well nourished until the very end, and there were very few focal symptoms, although the disease must have been constantly progressing. These same points were observed in the animals inoculated. From a study of the patient and the inoculated animals, infection with this torula seems to be unusually slow and insidious in its course, and inevitable in its outcome. Of the fifteen cases of torula infection now on record only one did not result fatally. In that case the infection involved chiefly the muscles and the vertebral column. The central nervous system was chiefly involved in thirteen cases; the lungs in one case.

Brain Changes in Carbon Monoxid Poisoning.—The brunt of the pathology in the case cited by Wilson and Winkelman was borne by the cortex in which there was an acute toxic condition limited to the third and fourth cortical layers, exactly similar to the case described by Stewart. Why this particular location suffered as the result of the poisoning is still in doubt. The patient lived seventeen days after exposure to gas, and she was unconscious all of this time, so that no accurate mental examination could be made.

Boston Medical and Surgical Journal

192: 335-378 (Feb. 19) 1925

*Roentgen Ray and Radium Therapy in Urology. G. G. Smith, Boston.—p. 335.
*Treatment of Syphilis with Bismuth. J. L. Grund, Boston.—p. 340.
Intraspinal Use of Gentian Violet. B. I. Goldberg, Boston.—p. 350.
*Mercurochrome in Treatment of Gonorrhea in Women. F. W. Johnson, Boston.—p. 353.
Lingual Abscess. R. A. Barlow, Madison, Wis.—p. 353.

Roentgen Ray and Radium Therapy in Urology.—Estimating the value of radiation in urology, Smith agrees with Ewing's statement that while radiation of deep lying tumors may relieve pain and restrain their growth, it rarely cures. As an adjuvant to surgical removal, deep radiation is a rational measure to employ, for it may restrain early metastases. There is place for radiation of the deeply penetrating type or of the locally caustic type in the majority of cases of malignant diseases of the genito-urinary tract. It may also be used with a fair measure of success in one condition which is not due to malignancy, namely, fibrosis of the corpora cavernosa.

Treatment of Syphilis with Bismuth.—One hundred and nine cases of syphilis in which bismuth was administered are analyzed by Grund. With the exception of a small number of early cases, in which it was substituted for mercury as an adjunct to arsphenamin in the intensive treatment, bismuth was employed in a conservative manner in that its administration was the sole alternative following the failure of older and more tried methods. The majority of patients was made of those usually placed in the category of latent Wassermann-fast syphilis, the remainder consisting of those presenting a definite untoward sensitivity toward the arsenicals, or in whom the type of syphilis present contraindicated the introduction of either neoarsphenamin, sulpharsphenamin or arsphenamin in a dose usually considered of theraptic value. The form of bismuth used was an oil suspension of potassium bismuth tartrate. It was introduced deep into the gluteal region in the same manner as mercury. With the exception of a small quota who received two treatments a week and a group of ostensibly sensitive subjects in whom it was thought that the initial dose should not be beyond 0.1 gm., 0.2 gm. of potassium bismuth tartrate containing from 64 to 69 per cent. of metallic bismuth was introduced once every seven days until a total of 3 gm. of the drug was obtained, when the patient was ordered a rest of from one month to six weeks without partaking of any form of medication. Following this interim, a blood Wassermann test was obtained and a repetition of the treatment instituted until a persistently negative serum Wassermann reaction was maintained. With this method the occurrence of untoward reaction due to a large and rapid accumulation of bismuth in the organism was for the most part avoided. Grund is convinced that the superiority of bismuth over mercury both in its spirocheticidal and serologic aspects are evident. When conservatively administered, its untoward effects are not greater and of no graver moment than those obtained with mercury. In cases of jaundice, and of arsphenamin dermatitis due to arsenic, in which potent antisyphilitic measures are desired, and in which it is necessary to obviate the reappearance of these untoward states, bismuth may be used with satisfactory results both clinically and serologically. Cases with arsphenamin intolerance, as manifested by nitritoid crises, are equally favorably influenced. In addition, in cases in which there is evident a strain of *Spirochaeta pallida* with its ensuing manifestations, resistant to either arsenic or mercury or to both, bismuth has been of definite potency in controlling all signs and symptoms of the disease. It is suggested that bismuth be given a trial in cases of syphilitic cardiovascular disease when the patient cannot or should not receive arsphenamin or any of its allied products. It is further suggested that bismuth be used as an adjunct to the drugs accepted at present as of definite value in the treatment of syphilis of the nervous system.

Mercurochrome-220 Soluble in Treatment of Gonorrhea.—Johnson claims to have obtained excellent results in these cases from the use of vaginal suppositories containing 2 per cent. mercurochrome-220 soluble. A suppository is placed in the posterior fornix every night for fourteen nights. The mercurochrome thoroughly permeates the lining structures of urethral, vaginal and cervical membranes.

California and Western Medicine, San Francisco

23: 161-256 (Feb.) 1925

*Blood and Tissue Changes in Anaphylactoid Reactions. P. J. Hanzlik, San Francisco.—p. 161.
Reasons for Child Guidance Clinic. R. L. Richards, San Francisco.—p. 164.
Los Angeles Experience in Child Guidance Work. A. J. Rosanoff, Los Angeles.—p. 167.
Adult Delinquency. J. Catton, San Francisco.—p. 170.
Habit Clinic for Preschool Child. S. K. Smith, Oakland.—p. 172.
Pneumonic Plague in Los Angeles. E. Bagby, Los Angeles.—p. 175.
Adenoma of Thyroid. V. A. Muller, Reno, Nevada.—p. 176.
Surgical Treatment of Chronic Peptic Ulcer. J. H. Breyer, Pasadena.—p. 179.
*Area Changes in Hearts Showing Decompensation and Lowered Cardiac Reserve. D. J. Frick, R. H. Kennicott and R. G. Kershner, Los Angeles.—p. 183.

Blood and Tissue Changes in Anaphylactoid Reactions.—Anaphylactoid reactions, which are elicitable by a variety of agents chemically and physically different, are accompanied by definite histologic, physical and chemical changes in the blood and tissues. These consist of congestion, hemorrhages, embolism and thrombosis in certain viscera, chiefly in the lungs; peribronchial edema; perivascular edemas, occurring chiefly around the small vessels and capillaries. In the blood there are darkening, rapid sedimentation of corpuscles, frequently hemolysis, agglutination, and disintegration of corpuscles and

agglutination and increased number of platelets, flocculation and aggregation of plasma, tendency toward acidity, diminution in carbon dioxid and alkali reserve, increase in ammonia and lactic acid after some agents; changes in blood volume, due to altered vascular permeability, blood dilution, etc. There are also changes in blood pressure, heart and respiratory rates and body temperature, ranging from moderate to severe, and often resulting in varying degrees of circulatory depression and collapse. Hanzlik believes that all of these changes put together indicate disturbances in important physical and chemical mechanisms of the blood and tissues, and are believed to be fundamentally responsible for widespread alterations in cellular activity, and hence for the symptoms and reactions. The results indicate something of the nature and limitations of nonspecific therapy and the dangers of intravenous medication.

Area Changes in Decompensated Hearts.—According to Frick et al., cardiac areas, as computed in the orthodiagram, show a fluctuation during compensation and decompensation. In cases of lowered cardiac reserve, enlarged hearts are seen to decrease in size with clinical improvement. In a small number of cases, subsequent enlargement of cardiac area accompanying clinical improvement and resumption of exercise would point to cardiac hypertrophy. Correlation of cardiac areas and clinical findings give information valuable in determining treatment and indicating prognosis.

Illinois Medical Journal, Oak Park

67: 81-160 (Feb.) 1925

Mesenteric Cysts. C. E. Humiston and E. C. Piette, Chicago.—p. 93.
Visualization of Biliary Tract by Intravenous Injections of Tetrabromphenolphthalein. F. Smithies and R. B. Oleson, Chicago.—p. 97.
Management of Toxemias of Pregnancy. J. P. Greenhill, Chicago.—p. 100.
Ectopic Pregnancy and Acute Appendicitis. M. Pfeiffenberger, Alton.—p. 104.
Rare Benign Tumor Pedicellated to Under Surface of Upper Lid. C. F. Burthardt, Effingham.—p. 109.
Some Factors in Radium Treatment. R. C. Crain, Chicago.—p. 110.
Growth of National Power. W. F. Dodd, Chicago.—p. 112.
Treatment of Gonorrhea of Genital Tract. E. W. White and C. O. Ritch, Chicago.—p. 117.
Physiotherapy as Applied to Eye, Ear, Nose and Throat. H. M. Thometz, Chicago.—p. 122.
*False, Acute Surgical Abdomen on an Alcoholic Basis. W. A. Brams and R. T. Vaughan, Chicago.—p. 125.
Preventive Surgery of Pancreas and Bile Ducts. G. L. McWhorter, Chicago.—p. 130.
Modern Conception of Stuttering and Stammering. M. Solomon, Chicago.—p. 133.
Aplastic Anemia. F. W. Young, Chicago.—p. 142.
Antibodies and Fatigue. C. L. Redfield, Chicago.—p. 145.
Idiopathic Splenomegaly: Case. J. K. Narat, Chicago.—p. 148.
Clarification and Pasteurization of Milk. A. J. Clay, Hoopeston.—p. 150.

Acute Alcoholic Intoxication with Abdominal Symptoms.—Brams and Vaughan relate their experience with recent cases of acute, alcoholic intoxication or so-called "moonshine poisoning" in which severe abdominal pain, vomiting, muscular rigidity, "shock," fever and leukocytosis were among the outstanding features. Some of these clinical pictures so closely resemble "acute surgical abdomen" that operation was seriously considered when the patients were first admitted to the hospital. The first case simulated acute perforative peritonitis so closely that the attending surgeon diagnosed ruptured gastric ulcer in addition to acute alcoholism. The second case was considered to be one of empyema of the gallbladder with complicating bronchopneumonia; but the necropsy, chemical examination of the urine and the subsequent history from the relatives suggest rather an acute toxic hepatitis due to alcohol. The third patient was admitted to the hospital with a diagnosis of a perforating or possibly ruptured gastric ulcer, but chiefly the fact that the onset of the pain was not quite typical led to delay in operation in spite of the fact that examination revealed many of the features of "acute surgical abdomen." The fourth patient was admitted to the surgical wards of the Cook County Hospital with a diagnosis of acute appendicitis. The history of an alcoholic debauch was not always obtained promptly in these cases because some of the patients deliberately made misstatements and others were in no condition on hospital admission to give a coherent account of the onset of the illness. The confusing manifestations in these cases of acute alcoholism are leukocytosis, "shock," abdominal pain and rigidity of the abdominal muscles. The difficulties in diagnosis actually may be increased rather than diminished by the clinical history. Errors in diagnosis in these instances may be avoided largely by keeping their possibility in mind. The fluoroscope may help. Physical examination and clinical experience are the chief reliance.

Iowa State Medical Society Journal, Des Moines

15: 47-104 (Feb. 10) 1925

Philosophy of Surgery. H. A. Royster, Raleigh, N. C.—p. 47.
Arterial Hypertension. W. A. Jenkins, Louisville, Ky.—p. 50.
Importance of Modified Surgical Technic in Using Local Anesthesia. R. E. Farr, Minneapolis.—p. 56.
Interstitial Keratitis. J. A. Downing, Des Moines.—p. 60.
Subcutaneous Use of Old Tuberculin for Diagnosis in Disease of Eye. H. B. Gratiot, Dubuque.—p. 63.
Anatomy of Appendix as Related to Acute and Chronic Appendicitis. G. M. Crabb, Mason City.—p. 69.
Modern Trend of Obstetrics. A. C. Page, Des Moines.—p. 72.
Rat Bite Fever; Case. W. E. Foley, Davenport.—p. 77.
Accidents and Complications Following Hemorrhoidal Operation. C. J. Drueck, Chicago.—p. 78.

Journal of Industrial Hygiene, Boston

7: 1-14 (Jan.) 1925

Relation of Organic Dust to Pneumonokoniosis. H. R. M. Landis, Philadelphia.—p. 1.
Industrial Poisoning by Arseniuretted Hydrogen (Arsine). I. Guelman, Moscow.—p. 6.
Behavior Studies in Industry. H. B. Elkind, Boston.—p. 17.
Vital Capacity of Lungs and Its Practical Application. J. A. Myers, Minneapolis.—p. 25.

Journal of Laboratory and Clinical Medicine, Baltimore

10: 337-425 (Feb.) 1925

*Relation of Chlorid Metabolism to Toxemia of Lobar Pneumonia. R. L. Haden, Kansas City, Kan.—p. 337.
Physical and Colloidal Chemistry of Arsphenamin. A. S. Hunter and W. A. Patrick, Baltimore.—p. 343.
*Chemical Factor in Resistance to Tuberculosis. H. J. Corper and M. B. Lurie, Denver.—p. 359.
*Relative Significance of Partial Complement-Fixation Test with Cholesterinized Antigens. D. M. Sidlick and A. Strauss, Philadelphia.—p. 374.
*Pollen Sensitization. J. H. Black, Dallas, Texas.—p. 378.
Is Pathologic Nomenclature Either Scientific or Sensible? O. J. West, Seattle, Wash.—p. 384.
Effect of Various Anesthetics on Strength of Uterine Contractions. M. P. Rucker, Richmond, Va.—p. 390.
Urea Determinations in Blood and Urine. T. Addis, San Francisco.—p. 402.
Practical Methods of Examination of Blood in Tuberculosis. H. C. Sweany, Chicago.—p. 409.

Chlorid Metabolism in Pneumonia.—The blood chemical analyses of a series of patients with lobar pneumonia are reported by Haden. The blood chlorids are low, the nonprotein and urea nitrogen are high; there is no acidosis. The changes observed are probably due to a generalized protein destruction. Supplying the missing chlorid seemed to influence the course of the disease markedly. Therefore, Haden says, in all cases of lobar pneumonia sufficient chlorid should be given to keep the blood chlorid at or near the normal level.

Resistance to Tuberculosis.—Corper and Lurie incline to the view that the organ distribution of carbon determines the lodgment of tubercle bacilli. Microscopic study of all the organs reveals that the localization of the early tubercles in the lungs, liver, spleen and kidney is the same as the deposition of the carbon following intravenous injection. However, exceptions are the lungs. There is greater pulmonary than hepatic susceptibility to tuberculosis. Attempts to explain pulmonary disposition to tuberculosis are numerous. The lung is primarily an oxygenating and decarbonating organ for the body and as such distinguishes itself from all the other organs, while the liver, having essentially a venous circulation has the richest carbon dioxid and poorest oxygen supply of any organ in the body. In the light of the previous work on carbon dioxid and on the effect of constriction of the ear of the rabbit on tuberculosis developing in this appendage, it seems highly probable that this factor may be instrumental in determining pulmonary susceptibility to tuberculosis as opposed to hepatic resistance to the disease.

Wassermann Reaction and Syphilis.—Sidlick and Strauss emphasize the importance of a 1 plus Wassermann reaction with the cholesterinized antigen, but do not maintain that this test per se is diagnostic of syphilis. Experimental and postmortem evidence is not lacking that a patient may be afflicted with syphilis; that he may be a source for transmission of the disease and yet not manifest the disease clinically.

Pollen Sensitization.—Experimental evidence obtained by Black suggests that hay-fever is not an anaphylactic phenomenon.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

25: 1-90 (Feb.) 1925

*Insulin and Liver Glycogen. C. F. Cori, Buffalo.—p. 1.
Pharmacologic Action of Cryptopine. R. St. A. Heathcote, Cairo, Egypt. —p. 35.
Potassium Chlorate: Its Influence on Blood Oxygen Binding Capacity (Hemoglobin Concentration); Rate of Excretion and Quantities Found in Blood After Feeding. V. Ross, Bloomfield, N. J.—p. 47.
Chemotherapeutic Properties of Substance with Chain of Four Arsenic Atoms. H. G. Barbour, G. B. Ridout and D. Clayden, Louisville.—p. 53.
Nephropathic Action of Dicarboxylic Acids and Their Derivatives. III. Acids of Six to Nine Carbons. W. C. Rose, C. J. Weber, R. C. Corley and R. W. Jackson, Urbana, Ill.—p. 59.
Nephropathic Action of Dicarboxylic Acid and Their Derivatives. IV. Mucic Acid. W. C. Rose and P. S. Dimmitt, Urbana, Ill.—p. 65.
Influence of Calcium and Potassium on Response of Isolated Frog Heart to Epinephrin. W. Salant, H. Washein, Jr., and R. L. Johnston, Augusta, Ga.—p. 75.

Insulin and Liver Glycogen.—It is concluded by Cori that insulin produces glycogen synthesis whenever there is a certain excess of sugar available. The excess of sugar must not necessarily be derived from administration from without, since the excess production of sugar in the body itself as it occurs during phlorhizin poisoning and after complete pancreatectomy leads to glycogen synthesis when insulin is injected.

Ohio State Medical Journal, Columbus

21: 81-152 (Feb.) 1925

Surgical Treatment of Fibromyoma of Uterus. C. W. Mosts, Toledo.—p. 85.
Application of Radiation to Fibroid Tumors of Uterus. B. H. Nichols, Cleveland.—p. 87.
*Mental Disturbances Associated with Cardiac and Cardiovascular Disorders. C. W. Stone, Cleveland.—p. 92.
Achondroplasia: Two Cases. W. W. Brand, Toledo.—p. 96.
*Hyperinsulinism. H. J. John, Cleveland.—p. 99.
Tuberculosis Hospitals in Ohio. W. G. Breidenbach.—p. 101.

Mental Disturbances in Cardiovascular Disorders.—Among a group of several hundred mental patients, Stone found forty certain cardiovascular disturbances which seemed to bear a direct relationship to the disordered mental conditions for which primarily the patients were admitted; in other words, although the mental symptoms dominated the clinical picture, yet the explanation for the presence of these symptoms was to be found in the cardiovascular system. Cases with concomitant renal disease or syphilis, or with a history of alcoholism were excluded from consideration.

Hyperinsulinism.—John cites a case in which he illustrates the injurious effects of a continued overdosage of insulin. He states that insulin should not be administered except on a positive diagnosis of diabetes; that its use should be discontinued as soon as the need for it ceases to exist; and finally that prescriptions for the continued self-administration of insulin should not be given except in undoubted cases of diabetes.

Virginia Medical Monthly, Richmond

51: 667-734 (Feb.) 1925

Spinal Anesthesia. D. A. Orth, Chicago.—p. 667.
Frequency of Urination. A. I. Dodson, Richmond.—p. 674.
Kidney Infection: Three Hundred Cases. W. C. Stirling, Washington, D. C.—p. 679.
Unilateral Hydronephrosis. J. H. Neff, University, Va.—p. 683.
Surgical Treatment of Pulmonary Tuberculosis. P. S. Johns, Richmond. —p. 687.
Hemorrhagic Disease of New Born. L. T. Royster, University, Va.—p. 693.
Treatment of Duodenal Ulcers. S. McGuire, Richmond.—p. 697.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Ophthalmology, London

9: 49-96 (Feb.) 1925

Relations Between Eye Movements and Other Cranial Muscles. R. A. Carmichael and M. Critchley.—p. 49.
Special Vulnerability of Macular Fibers and "Sparing of Macula." H. M. Traquair.—p. 53.
Series of 250 Cataract Extractions by Barraquer's Method. R. E. Wright.—p. 57.
Pulfrich's Phenomenon: Its Possible Clinical Importance. H. Grunbaum. —p. 63.
Illumination Required for Instantaneous Color Photography of Eye (Life Size). B. Chavasse.—p. 66.
Optical Illusion. B. F. Haythornthwaite.—p. 68.

British Journal of Radiology, London

20: 41-80 (Feb.) 1925

Gastrectomy for Carcinoma of Stomach: Case. C. P. G. Wakeley.—p. 41.
Normal Movements of Stomach. E. D. M'Cree, B. A. M'Swiney, J. W. Morison and J. S. B. Stopford.—p. 48.
Separate Center of Ossification for Tip of Internal Malleolus. D. Den Hoed.—p. 67.

British Medical Journal, London

2: 249-290 (Feb. 7) 1925

Recent Advances in Study of Cardiovascular Disease. J. E. Macllwaine. —p. 249.
Sympathetic Innervation of Striated Muscle. J. I. Hunter.—p. 251.
*Tuberculosis Incidence and Climate in India. L. Rogers.—p. 256.
*Some Affections of Epiphyses. H. A. T. Fairbank.—p. 260.
*Diabetic Diet: Line Ration Scheme. R. D. Lawrence.—p. 261.
*Spontaneous Rupture of Heart. J. B. Shaw and R. Dow.—p. 262.
*Simple Method of Blood Transfusion in Infancy. G. H. Abbotter. —p. 263.
Type of Case Bronchitis Gets. F. W. Stuart.—p. 264.
Thrombo-Angiitis Obliterans. C. Dickson.—p. 264.
Cutaneous Gonococcal Infection. A. N. Kingsbury.—p. 265.
Protein Anaphylaxis: Case. F. McKenna.—p. 265.
Recurrent Chickenpox. W. Stobie.—p. 265.

Tuberculosis Incidence in India.—The direction, steadiness, and strength of the rainbearing winds appear to be the most important factors, in addition to high rainfall and absolute humidity, in influencing the prevalence of pulmonary tuberculosis in Indian jails. Rogers' observations are in accordance with the well known observations of Dr. W. Gordon on the relation between exposure to humid winds in Devonshire and the incidence of phthisis, and afford them strong support on a very large scale, since the monsoon-influenced Ganges and Upper Indus valleys extend over 1,400 miles. Their bearing on the choice of a residence for an actual or potential phthisical patient, and on the choice of sites for sanatoriums, is obvious.

Trauma of Epiphyses.—Three traumatic cases cited by Fairbank emphasize the importance of roentgen-ray examinations in all cases, however trivial, in which it is possible that a lesion of a bone has occurred. The first case was one of early separation of the femoral head, that is, an early adolescent coxa vara. In the second case, there was partial separation of the great trochanter. In the third case, there was separation of the epiphysis of the anterior inferior iliac spine.

Line Ration Scheme in Diabetes.—Lawrence has devised a so-called line ration scheme of feeding diabetic patients. Each complete line is called a ration and consists of a standard amount of carbohydrate, protein and fat. The diet is prescribed as so many lines, or rations, a day. To calculate the appropriate number of rations the physician has only to divide the body weight in pounds by 16 (16.5 is more exact). Thus if a man weighs 165 pounds (75 kg.) he will get ten rations, that is, ten lines a day. Each line is divided into two parts: the first half-line containing the carbohydrate and the second half-line the protein and fat. Any first half-line can be combined with any second half-line to make a ration. The number of rations a day is divided as desired between the different meals with regard to the time insulin is given and to other considerations. Suppose a patient gets three rations for breakfast: he can take 3½ ounces milk, ½ ounce bread, 4 ounces tomato (three first half-lines containing carbohydrate), and one egg and ⅝ ounce of fat as butter and 2 ounces of bacon (three second half-lines, one

of which has been taken twice). Thus the patient can choose his own food. The method is accurate and the lines exact in food value, with the exception of milk, whose content in protein and fat has been neglected for simplicity.

Spontaneous Rupture of Heart. — The salient features observed post mortem in the case cited by Skeen and Dow were: Narrowing of the lumen of the right coronary artery, causing almost complete obstruction of the circulation through that channel, and secondary fibrotic and degenerative changes in the cardiac muscle in part of the region supplied by the right coronary artery. The rupture was situated in this region. Degenerative changes were more prone to occur in the specimen described, as the area affected was entirely dependent for its blood supply on the right coronary artery.

Saphenous Vein for Blood Transfusion. — In a case of severe collapse resulting from gastro-enteritis in a 4 months old child, Alabaster injected citrated blood into the upper end of the saphenous vein. The child made a very speedy recovery.

Bristol Medico-Chirurgical Journal

42: 1-72 (Jan.) 1925

Postgraduate Medical Education. J. O. Symes.—p. 2.
*Appendicitis as Cause of Intestinal Obstruction. R. Warren.—p. 23.
Spinal and Peripheral Nerve Injuries. W. Adams.—p. 32.

Appendicitis as Cause of Intestinal Obstruction.—Intestinal obstruction as a sequel to or a concomitant of appendicitis occurred thirty-four times in 1,011 cases of operation for appendicitis of which Warren has notes. In addition, there occurred in a certain proportion of cases a condition of loculated fibrinopurulent peritonitis associated with a certain amount of obstruction in which the lethal result was perhaps more from peritonitis than from obstruction, and these cases have a very high mortality. Clinically, cases of obstruction due to appendicitis fall into two groups: (1) primary, and (2) postoperative. In the former group there were thirteen cases, in the latter twenty-one. The mortality for the thirteen primary cases was nil. In the second group it was about 33 per cent.

Edinburgh Medical Journal

33: 45-88 (Feb.) 1925

*Tuberculosis in Childhood. A. R. MacGregor.—p. 45.
Solitary Nonparasitic Cysts of Liver. R. C. Alexander.—p. 61.
Oculocardiac Reflex and Endocrinology. J. Oliver and G. Y. Oliver.—p. 69.
Congenital Cardiac Defect in Children: Cases. A. R. MacGregor.—p. 72.

Tuberculosis in Childhood.—This study is based on forty-two necropsies done by MacGregor on children ranging in age from 4 months to 10 years. The distribution of advanced lesions in the three groups of glands was: cervical glands, two cases; thoracic glands, twenty-one cases; mesenteric glands, twenty-two cases. The very large proportion of the cases to come under the heading of miliary tuberculosis and meningitis (50 per cent. of the total), brings out clearly a notable characteristic of tuberculosis in early life, namely, a strong tendency for extension to be widespread by the blood stream, and to assume this acute and rapidly fatal form, which is much less common in adults. Acute miliary tuberculosis and meningitis were very much more often associated with advanced caseation in the thoracic glands, than in any other group. A very pronounced tendency for the infection to become widely disseminated by the blood stream when the thoracic glands are extensively caseous, is thus brought out in a most striking manner. In the abdominal group, only three of twenty cases in which caseation of thoracic glands was not associated with the mesenteric lesions, became thus disseminated; and in the cervical group, none. Of the twenty-one thoracic cases, eighteen ended in death from miliary tuberculosis and meningitis. In none of the three nonfatal cases was there metastasis to the brain. Caseous tuberculosis in the mesenteric glands was relatively seldom associated with acute miliary tuberculosis but tended rather to spread locally in the abdomen, or to remain confined to the glands. Calcified tubercles were rarely found in this series. The evidence derived from this study indicates that, when tuberculous infection occurs in young children, the lesions usually assume an active, and often a fatal, character. Toxemic manifestations in tuberculosis are of great importance, but are the actual cause of death in children less often than in adults. Nutritional and degenerative changes, due to general toxic action, were most constant and most severe in the abdominal cases.

Indian Journal of Medical Research, Calcutta

12: 221-441 (Oct.) 1924

Preparation of Hydnocarpus Esters and Their Use in Leprosy. E. Muir.—p. 221.
Nature and Pharmacologic Action of Cholera Toxin. H. W. Acton and R. N. Chopra.—p. 235.
*Local Effects Produced in Tissues by Intramuscular Injections. H. W. Acton and R. N. Chopra.—p. 251.
*Jute Dermatitis. D. F. Curjel and H. W. Acton.—p. 257.
Some Indian Species of Genus Phlebotomus. J. A. Sinton.—p. 261.
*Mechanism of Immunity Against Malaria in Communities Living Under Hyperendemic Conditions. S. R. Christophers.—p. 273.
Further Varieties of Indian Species of Anopheles; Species A. Pallidus Theobald and A. Philippinensis Ludlow. S. R. Christophers.—p. 295.
Vital Processes That Occur at Cell Surfaces. H. W. Acton.—p. 303.
Production of Immunity Against Plague by Vaccine. I. J. Morison, B. P. B. Naidu and C. R. Avari.—p. 313.
Id. II. Agar Cultures. J. Morison, B. P. B. Naidu and C. R. Avari.—p. 321.
Id. III. Immunization by Oral Administration of Plague Vaccine With and Without Bile. J. Morison, B. P. B. Naidu and C. R. Avari.—p. 327.
*Commentary on Production of Immunity Against Plague by Vaccine. F. P. Mackie.—p. 331.
*Intravenous Administration of Antirabic Vaccine. J. Morison.—p. 333.
*Use of Urea Stibamine in Kala-Azar. H. E. Shortt and R. T. Sen.—p. 335.
Method of Obtaining Stereoscopic Photographs of Entomologic Subjects. H. E. Shortt.—p. 339.
Methods for Enumeration of Parasites and Leukocytes in Blood of Malarial Patients. J. A. Sinton.—p. 341.
Various Local Indian Remedies. N. H. Fairley and W. G. Liston.—p. 347.
Studies in Dracontiasis. IV. Clinical Picture; Analysis of 140 Cases. N. H. Fairley.—p. 351.
Id. V. Intravenous Medication; Tartar Emetic. N. H. Fairley.—p. 369.
Practical Value of Discovery of Latent Dysentery Cases as Method of Dysentery Control. J. Cunningham and K. V. Krishnan.—p. 375.
Behavior of Culture of Herpetomonas Donovani in Bed Bugs (Cimex Lectularius Linn and Cimex Hemiptera Fabr.). H. E. Shortt and C. S. Swaminath.—p. 391.
*Chemotherapy of Antimonial Compounds in Kala-Azar Infection. XI. Value of Stibamine in Treatment of Early Kala-Azar. U. N. Brahmachari.—p. 397.
Bilirubin Content of Blood Serum. T. A. Hughes.—p. 403.
*Functional Capacity of Liver in Malaria; Levulose Tolerance Test. J. A. Sinton and T. A. Hughes.—p. 409.
Chemotherapy of Antimonial Compounds in Kala-Azar Infection. XII. Urea Stibamine and Stibamine. U. N. Brahmachari and J. Das.—p. 423.
Culicine Mosquitoes of India. XVII. P. J. Barraud.—p. 427.
Experimental Leishmaniasis in Mice. Generalized Infection by Leishmania Tropica. R. Row.—p. 435.

Local Effects of Intramuscular Injections. — Acton and Chopra hold that the injection of the alkaloidal salts of antimony, emetin and quinin into the muscles should be considered malpractice, as this tissue is unable to live in the presence of these bases at a high concentration, viz., 1:2,000, and there is also a slight danger of tetanus. There is only one method of administering the cinchona alkaloids and that is by the mouth. Very rarely, in grave cases, e. g., cerebral malaria, when an immediate action is required, quinin base should be injected intravenously.

Jute Dermatitis.—Jute dermatitis is described by Curjel and Acton as a nonsuppurative folliculitis caused by the mechanical blocking of the sebaceous gland orifices by plugs of the unexfoliated stratum. The mineral oil used for softening the jute does not irritate the skin, but protects the skin from water and so increases the accumulation of the corneum. The disease has escaped adequate description as a trade dermatitis among workers in the tropics, for the eruptions are not associated with subjective symptoms, and occur in a class of patients who are indifferent to their personal appearances.

Acquired Immunity in Malaria.—Christophers' studies seem to indicate that there is a definite acquired immunity in malaria, evidenced by a restricted numerical prevalence of parasites in the blood and the ability of the individual to live infected, but free from sickness, under conditions that to the newcomer (or newly born) means intense, almost continuous heavy infection. The nature of such immunity closely

resembles therefore the "salting" of animals in trypanosomiasis and piroplasmosis.

Haffkine's Antiplague Vaccine.—Mackie summarizes the preceding papers bearing on this subject by stating that the attempts to improve Haffkine's prophylactic have not given such results as would justify the introduction of any important modification in the present methods of manufacture.

Intravenous Administration of Antirabic Vaccine.—Morison's experience with the intravenous administration of antirabic vaccine has been good. Seven hundred and twenty intravenous injections have been given to 169 patients without a single accident or any alarming symptom either at the time of injection or subsequently.

Urea Stibamine in Kala-Azar.—Wide experience in the use of urea stibamine has convinced Shortt and Sen of the value of this drug in the treatment of Indian kala-azar.

Urea Stibamine Cuts Short Course of Kala-Azar.—It is evident from the cases recorded by Brahmachari that urea stibamine cuts short the course of kala-azar to a remarkable degree, if administered in its early stages. The same conclusions have been reached from observations by different observers in different places.

Functional Capacity of Liver in Malaria.—Findings reported by Singon and Hughes have shown that, as measured by the "levulose tolerance test," there may be some disturbance of the glycogenetic function of the liver in a certain number of ordinary acute cases of malaria but the degree of inefficiency found was not marked. In cases showing pernicious symptoms, the inefficiency would probably be greater. The occurrence of this liver disturbance in ordinary cases of malignant tertian malaria and the possibility of an even greater degree of it in pernicious cases, would seem to show that the ingestion of glucose or levulose is indicated in all cases of malaria, more especially in severe cases, to protect the liver cells and prevent further damages to the other functions of the liver, which are protected by the glycogen reserve of this organ.

Indian Medical Record, Calcutta

65: 1-32 (Jan.) 1925

Treatment of Epidemic Dropsy. K. C. Dutt.—p. 1.
New Factor in Control of Kala-Azar. N. L. Ghosh.—p. 4.
Causes and Prevention of Death in Childbirth from Septicemia. J. C. Chatterjee.—p. 6.

Journal of Cancer, Dublin

9: 1-60 (Jan.) 1925

Cancer Problem. A. C. Magian.—p. 1.
Cancer Prevention vs. Cancer Control. J. Hall-Edwards.—p. 13.
Causation of Cancer. A. T. Brand.—p. 21.
Elucidation of Cancer. L. W. Sambon.—p. 37.

Journal of Obstetrics and Gynaecology of British Empire, Manchester

31: 537-712 (Winter Number) 1924

*Ovary and Other Female Pelvic Organs Containing Aberrant Müllerian Elements. K. V. Bailey.—p. 539.
*Formation, Structure and Physiology of Corpus Luteum of Man, Pig and Duck-Billed Platypus. B. Solomons and J. W. B. Gatenby.—p. 580.
*Nonprotein Nitrogen and Uric Acid Values in Blood in Pregnancy. V. J. Harding, K. D. Allin and H. B. Van Wyck.—p. 595.
Molding of Fetal Head and Its Consequences. W. O. Greenwood.—p. 611.
*Seventy Years of Country Midwifery Practice. C. E. Douglas.—p. 622.
Puerperal Ovarian Thrombophlebitis with Abscesses in Wall of Uterus. W. B. Bell.—p. 647.
*Manual Rupture of Puerperal Uterus. W. B. Bell.—p. 649.
Perineal Hematoma During Labor. W. F. Shaw.—p. 651.
Traumatic Separation of Symphysis Pubis During Delivery. A. E. Chisholm.—p. 655.

Ectopic Muellerianoma.—For tumors containing aberrant muellerian elements Bailey suggests a new name, ectopic muellerianoma, because no one name of those previously used can thoroughly embrace both the endometrial and fallopian tube types of this extra-uterine pelvic tumor. "Endometrioma" might refer to the endometrial type alone, but could not include the fallopian tube type. This new name, however, is expressive of both types of the condition, the abnormally situated elements in each case being muellerian in origin. Bailey has never found smooth muscle tissue associated with this tumor in the ovary, but its presence does not in any way affect this nomenclature. The tumor itself is only locally malignant and does not tend to the formation of metastases. Its origin, wherever situated, is "from without." Bailey reports twenty cases and publishes many illustrations.

Function of Corpus Luteum.—Examination of the corpora lutea of the human, the pig, the rat, and the duck-billed platypus (*Ornithorhynchus*) by Solomons and Gatenby shows that the lutein cells originate purely from the membrana granulosa. There is no evidence that the theca interna cells form intercellular or intracellular fibers. The growth of connective tissue in the aging corpus is not from endothelial cells, as suggested by Corner, but from theca externa elements. The cytology of the cytoplasmic inclusions of the human graafian follicle wall and the corpus luteum is described. The work of Allen and Doisy is noted, and parallel experiments with rats fed, instead of injected, with liquor folliculi and corpus luteum, have been carried out. The results, still incomplete, support Allen and Doisy. So far as the experiments have been carried out, bovine liquor folliculi, given to women by the mouth, appears to have no effect on ailments peculiar to women. Corpus luteum is useful when given by the mouth in the treatment of scanty and absent menstruation. It is a valuable aid to the treatment of sterility, but of little service in the cases of menorrhagia and metrorrhagia. It is occasionally helpful in treating dysmenorrhea. Menopausal symptoms are seldom relieved. It is successful in some cases of vomiting of pregnancy. Corpus luteum administered hypodermically has cured cases of severe vomiting of pregnancy and of menstrual epilepsy.

Nonprotein Nitrogen and Uric Acid Values in Blood in Pregnancy.—The facts obtained by Harding, Allin and Van Wyck have caused them to assume a very negative attitude of mind toward the value of the ordinary determinations of nonprotein nitrogen, urea and uric acid in blood in pregnancy, when made with a view to assisting in the diagnosis or prognosis of the "toxemias of later pregnancy." The increases found, however, in nonprotein nitrogen of the blood often have little or no bearing on the clinical condition. They are not always accompanied by increases in the urea, and the increases found in the nonprotein nitrogen are confined to the corpuscles, and not necessarily to the pathologic states. They can occur in normal pregnancy. It would appear to be a characteristic of pregnancy to find increases in the nonprotein nitrogen without corresponding increases in urea. In the authors' opinion, very little further advance in this field will be made until the nature of this unknown fraction of nitrogen in the blood is revealed. Normally it constitutes 50 per cent. of the total nonprotein nitrogen but in pregnancy it may form as much as 80 per cent.

Seventy Years of Obstetrics.—This review by Douglas does not concern the work of one man. It is, mainly, a survey of progress and results made to throw light on certain questions. For instance, it is shown that some improvement has been made from the heavy mortality of seventy years ago. Maternal mortality takes place quite as frequently in nonoperative cases as after operation. Forceps deliveries are not necessarily so dangerous as is at present being taught. If the forceps be only applied after full dilation of the os, and then as soon as their use is clearly indicated, without undue delay, the safest period has been selected. In cases in which the forceps are not indicated, there is a wider scope for the practice of version than is at present believed. Eclampsia, with good antenatal care, should be eliminated. Its treatment by chloroform is a sound procedure. While there has been improvement in maternal mortality, it is still unduly high. This may be due to the presence of a hitherto unrecognized factor. This factor may be described as a reversion in the parturient woman to certain types of organism in which there is a tendency to death after fulfilment of the sexual function.

Manual Rupture of Puerperal Uterus.—In the belief that products of conception were retained in this case, the medical attendant made an attempt to remove them, and unwittingly removed fragments of the muscle wall of the uterus thereby weakening it. Further attempts to reach the "fundus" resulted in the hand being passed through the posterolateral wall of

the uterus on the right side. When Bell saw the patient she was in a condition of considerable shock. He immediately performed a laparotomy. The supposed "fundus," into the interior of which the doctor had endeavored to pass his hand, proved to be an ovarian cyst of the same size as that of a full-time fetal head, with torsion of the pedicle. The cyst was lying partly in the pelvis and partly in the hypogastrium in front of the uterus, and resting on the fundus of the bladder. Light adhesions to the surrounding structures were present. When the cyst had been delivered a large rent was observed in the uterine wall. Bell asserts that this is the only case of the sort on record.

Journal of State Medicine, London

38: 51-100 (Feb.) 1925

Problem of Crippled Child. R. Jones.—p. 51.
Compensation in Mitral Insufficiency. D. T. Barry.—p. 67.
Some Fundamental Factors Concerned in Spread of Infectious Disease. S. F. Dudley.—p. 79.

Journal of Tropical Medicine and Hygiene, London

28: 37-84 (Feb. 2) 1925

Epidemiology of Cancer Observations Made in Iceland and Italy (1924). L. W. Sambon.—p. 39.
Gonglyonema Collected in Italy in 1924. H. A. Baylis.—p. 71.
Insect Intermediate Hosts of Gonglyonema. K. G. Blair.—p. 76.

Lancet, London

1: 163-214 (Jan. 24) 1925

Acute Hematemesis and Melena. J. Sherren.—p. 163.
Periodic Medical Examination. O. May.—p. 168.
*Predisposing Causes of Leprosy. E. Muir.—p. 169.
*Breast Disease and Demodex Folliculorum. H. Chambers and A. M. Somerset.—p. 172.
*Ethylene Anesthesia. C. L. Hewer.—p. 173.
Acute Polio-Encephalitis: Two Cases. E. A. B. Poole.—p. 175.
Tonsillectomy in Boy with Congenital Heart Disease. S. G. Papadopoulos.—p. 176.

Predisposing Causes of Leprosy.—It is maintained by Muir that in almost all cases the onset of leprosy is due to some predisposing cause in conjunction with infection with *B. leprae*. Some of these will remove themselves; of the rest, the majority can be removed by treatment. Certain of these causes which predispose to the onset of the disease and to its increase in the first stages tend to bring about resolution of the lesions and general improvement in later stages. It is essential to remove predisposing causes as far as possible before carrying out vigorous special treatment, as otherwise the latter may cause an increase rather than a diminution of the disease. Most deformities in leprosy are due to the lack of vigorous treatment in the later stages of the disease.

Breast Disease and Demodex Folliculorum.—According to Chambers and Somerset breast disease in England is often associated with the presence of an acarus *(Demodex folliculorum)* which lives at the orifice of the nipple. This acarus apparently is prevalent, irrespective of the social class or personal habits of the patient. It lives deeply in the sebaceous glands and is not killed by treatment of the skin with strong antiseptics; it can remain alive for over a week buried in the skin. Any form of preventive measures must, therefore, be long continued and must aim at destroying the acarus when it comes to the surface. It has been suggested by Borrel that this parasite can convey to the breast ducts a living virus which can set up malignant disease. At present there is no evidence to support or to disprove this theory.

Ethylene Anesthesia.—The results reported by Hewer agree substantially with the reports of large numbers of cases anesthetized with ethylene in America, and appear to show that this gas has certain advantages over the other anesthetics at present in use, especially for minor operations taking a moderate time and which require more than nitrous oxid.

1: 319-368 (Feb. 14) 1925

*Spleen. J. Barcroft.—p. 319.
*Treatment of Purpura Hemorrhagica by Splenectomy. G. A. Sutherland and B. Williamson.—p. 323.
*Prevention and Treatment of Postoperative Pulmonary Embolism. E. C. Lindsay.—p. 327.
"Postanesthetic" Vomiting. J. D. Mortimer.—p. 329.
*Types of Tubercle Bacilli. G. R. Ross.—p. 330.
Penetrating Wound of Abdomen. J. B. Hance.—p. 331.

Function of Spleen.—Barcroft believes that his experiments show that the blood volume should be regarded not as an aliquot part of the body weight, but as a physiologic variable which is adjusted to the work required of it, and to the size of the "bed" which it occupies; that the spleen is not a "ductless gland," but a definite part of the vascular system. It has a function entirely in conformity with its muscular structure, being in fact a reservoir of corpuscles at once fitted by its reticulum to detain them and by its musculature to expel them when required to do so.

Splenectomy in Purpura Hemorrhagica.—Sutherland and Williamson report two cases of purpura hemorrhagica in which a splenectomy was done. A third case was not considered suitable for operation because active epistaxis had ceased for nine months and the general condition was satisfactory. In the cases of operation, the number of platelets rose markedly after operation, and never reached the former low level. In the first case the patient (aged 8 years) shows a remarkable improvement in general health, and now leads the ordinary active life of a child. The yellow tinge in the skin and watery fat are no longer evident. No external hemorrhage in any form has occurred since the operation five and a half months ago. Petechiae and bruises still occur but to a less extent than formerly. The blood condition steadily progresses to the normal. The feeding time is from two to three minutes and the clot contracts firmly and expresses clear serum. The results in the second patient (aged 9 years) are even more striking than in the first.

Postoperative Pulmonary Embolism.—Lindsay has reviewed the records in 114 cases of postoperative pulmonary embolism. It would seem that age is a most important factor in its production, the average age in the series being 52 years. The primary thrombus formation occurs in the veins in which there is marked stasis, namely, the pelvic and femoral veins. In this series, in 42 per cent. this thrombus was discovered. Sepsis is probably only a contributory cause, acting by lowering the vitality of the patient, and therefore promoting stasis.

Types of Tubercle Bacilli.—The conclusions drawn by Ross are that the tubercle bacilli isolated from 100 cases of pulmonary tuberculosis all conform to one well defined serologic type, and that while certain small variations do exist, these variations are negligible, being no greater than those found in other monotypical pathogenic micro-organisms. It would seem to Ross therefore, that the statistical postulate of the existence of two groups of human tubercle still requires proof, and that the present bacteriologic evidence is against the idea.

Medical Journal of Australia, Sydney

1: 51-76 (Jan. 17) 1925

Control of Pulmonary Tuberculosis. J. G. Histop.—p. 51.

1: 77-100 (Jan. 24) 1925

*Pneumonia of Uncommon Type. C. Joyce.—p. 77.
Nasal Sinusitis and General Medicine. H. M. Jay.—p. 79.
Danger Signals in Glaucoma. E. A. Mattison.—p. 80.
Use and Abuse of Uterine Curet. P. Barrington.—p. 82.
Latent Syphilis. G. C. Willcocks.—p. 84.
Bullet Wound Injury to Visual Cortex on Each Side. J. L. Gibson.—p. 86.
*Acute Primary Tuberculosis of Tonsil. A. E. Brown and K. McK. Doig.—p. 86.

1: 127-152 (Feb. 7) 1925

Effects of Disturbance of Physiology of Movements of Gastro-Intestinal Tube. A. E. Mills.—p. 127.
Aspects of Enlargement of Abdomen in Children from Surgical Side. R. B. Wade.—p. 131.
Concept of Mental Deficiency. E. M. Miller.—p. 133.

Atypical Pneumonia.—In the cases cited by Joyce the consolidated lung did not convey to the stethoscope sounds originating in the bronchial tubes; there was almost complete absence of sputum in the cases uncomplicated by bronchitis, and a persistent hacking cough was a feature of all. The unusually long duration of the disease in most of the patients and the absence of apical intensification of breath sounds were also peculiar.

Acute Primary Tuberculosis of Tonsil.—Brown and Doig report the case of a man, aged 29, who died about six weeks after the onset of a sore throat. Bacteriologic examinations

for Vincent's organism and diphtheria were negative. Ziehl-Nielssen's stain of pus taken from the tonsil revealed tubercle bacilli. Further examination made after death of tonsil and soft palate tissues confirmed this finding. Death was caused by extension of the disease to the lungs.

Practitioner, London

114: 113-180 (Feb.) 1925

Problems in Medicine. J. Mackenzie.—p. 113.
*To What Extent Does Insulin Possess a Curative Influence? O. Leyton. —p. 117.
Early Diagnosis of Gallstones. A. E. M. Wood.—p. 128.
Diagnosis of Renal Enlargements. W. E. Irwin.—p. 138.
Ten Years' Welsh Tuberculosis Dispensary Work. J. L. Thomas.—p. 144.
Variations in Composition of Normal Human Milk. J. A. Gardner and F. W. Fox.—p. 153.
*Mechanical Factor in Causation of Appendicitis. E. J. Lloyd Jones-Evans.—p. 69.
Treatment of Acne and Pustular Diseases of Skin by Mustard Baths. V. Hetherington.—p. 172.

Curative Property of Insulin.—In Leyton's opinion it is the duty of the medical adviser to take energetic steps to reduce the blood sugar to normal as soon as he has definitely diagnosed the case as glycosuria with hyperglycemia, and then if the patient possesses a normal renal threshold, to impress on him the fact that the absence of glycosuria does not mean that all is well, but that strict adherence to the prescribed diet gives him the only chance of realizing to what extent insulin possesses a curative influence.

Mechanical Factor in Causation of Appendicitis.—It has been Jones-Evans' experience, when operating in early cases of appendicitis, to find the appendix either partially or completely twisted, and the edema and congestion of the organ varied with the severity of the torsion. In the majority of cases the twisting of the appendix appeared to be in a direction from left to right, the mesentery becoming wrapped round it. The torsion varied from a slight twist to complete strangulation and indentation of the peritoneal surface of the appendix by the tightened band of mesentery. Jones-Evans is convinced that this torsion is a factor in the production of appendicitis. Further twisting of the organ will produce subsequent attacks constituting the clinical condition of "recurring or intermittent typhlitis," till finally the strangulation may become complete and urgent symptoms arise. If the adhesions produced in these cases of slight torsion are sufficient to prevent free movement of the appendix, no further rotation will occur and the condition remains either in statu quo, or gradually subsides.

South African Medical Record, Cape Town

23: 21-40 (Jan. 24) 1925

Some Impressions of Work at London Hospital. C. D. Roberts.—p. 23.
Results of Surgical Interference in Some Cardiac Affections. H. L. Heimann.—p. 26.

Tubercle, London

6: 209-264 (Feb.) 1925

Tuberculosis of the Eye. C. Goulden.—p. 209.
Duration of Sanatorium Treatment. W. C. Fowler.—p. 216.
Results of Sanatorium Treatment. N. D. Bardswell.—p. 220.
*Sodium Morrhuate in Pulmonary Tuberculosis. G. Jessel.—p. 223.
Present Condition of Patients Discharged from Trudeau Sanatorium. F. H. Heise and L. Brown.—p. 227.
Results of Pirquet Tuberculin Tests on 1,654 Children in Rural Community in Minnesota. S. A. Slater.—p. 233.

Sodium Morrhuate in Pulmonary Tuberculosis.—Jessel relates his experience with seventeen cases. Two patients were discharged improved during the period of injections. As during this period men who had not received injections were also discharged improved, it is impossible to claim any certain benefit from the injections in the case of these two men. As regards the remainder, there appeared to be no material difference in their condition after the injections as compared with a larger number of comparable control cases, whose treatment was in every respect similar except for the absence of the injections. From this investigation there would appear to be no evidence that subcutaneous injections of a 3 per cent. solution of sodium morrhuate in doses of from 0.1 to 0.9 c.c. have any material influence on the course of tuberculosis in its chronic or advanced stages.

Bulletin de l'Académie de Médecine, Paris

93: 153-179 (Feb. 10) 1925

"Standardization of Biologic Laboratories." L. Bernard.—p. 159.
Survey of Factories Producing Radioactive Substances in France. D'Arsonval et al.—p. 161.
*Case of Diabetes with Acromegaly. Marinesco and Paulian.—p. 166.
Standardization of Diphtheria Anatoxin. G. Ramon.—p. 173.
*Injection of Whole Blood in Prophylaxis of Whooping Cough. V. Gillot. —p. 176.

Diabetes with Acromegaly.—The case observed by Marinesco and Paulian was in a woman, aged 55. The pancreas presented partial sclerosis, and very large Langerhans' islands, with invasion by glandular acini. Besides a considerable enlargement of the sella turcica and pituitary, there was a patch of softening in the anterior lobe of the pituitary, the seat of an adenoma. The lesions in the pituitary may have caused injury to the tuber cinereum, with consequent glycosuria.

Injections of Whole Blood as Prophylactic Measure in Whooping Cough.—Gillot used for prophylaxis of whooping cough subcutaneous injections of human blood. In one series of children, from 1 month to 6 years old, the injections were made with blood from persons who had had whooping cough long before. Four children, injected before the catarrhal stage, did not contract the disease at all; in two, injected during the catarrhal stage, the disease appeared, but in a mild form. In another series, the blood was drawn from fathers and mothers without whooping-cough history. The injections were made during an epidemic. The age of the children varied from 11 months to 9 years. Six children, injected before the catarrhal stage, escaped the disease; in five, injected during the catarrhal stage, the disease was mild. The dose of blood injected in the seventeen children varied from 2 c.c. to 5 c.c. The age of the donors was between 6 and 37 years.

Bulletin Médical, Paris

39: 103-130 (Jan. 31) 1925

Organization for Serum Prophylaxis of Measles. L. Bernard.—p. 108.
*The New-Born and Measles. R. Debré and P. Joannon.—p. 111.
*Bismuth in Congenital Syphilis. L. Tixier.—p. 114.
*Basal Metabolism in Sick Infants. H. Sérvenin.—p. 117.
*The Body Fluids in Rickets. L. de Gennes.—p. 121.

Immunity and Susceptibility of the New-Born to Measles.—Debré and Joannon agree with Weill, Herrman (New York), and Pirquet that infants born of mothers with a history of measles are immune during the first two or three months of life; the immunity disappears gradually during the next three months, so that if infection with measles occurs, it is usually light, and, further, that susceptibility to measles in the mother means susceptibility in the new-born infant. A comparable condition exists with regard to diphtheria, scarlet fever, whooping cough, and even tuberculosis. Data reported by Herrman and their own observations suggest the possibility of a lasting immunity acquired without the disease, if the infant, when infected, has a relative immunity marked enough to prevent the disease, but weak enough to oblige the organism actively to immunize itself. They say that this idea of natural occult vaccination at an early age deserves consideration.

Bismuth in Treatment of Congenital Syphilis.—Tixier states that in early congenital syphilis, certain localizations are especially amenable to bismuth treatment. The nervous symptoms are rapidly affected, and convulsions and meningitis quickly ameliorated. In a case of hydrocephalus (Gautier) the intravenous injection of soluble bismuth had a better effect on the clinical syndrome and cerebrospinal fluid than arsenic had ever had. Duperié has reported a case of hydrocephalus greatly benefited by bismuth treatment. Blechmann says that intramuscular injections of the insoluble salts are preferable to arsenic and mercury in infantile syphilitic encephalopathy. Bismuth is the treatment of choice in syphilitic coryza. Boulanger-Pilet used an insoluble preparation of bismuth in infants, aged 12 to 14 months. Without inconvenience, a dose of 3 to 4 mg. per kilogram may be attained, with injections every four or five days. The accidents have been reduced to a minimum. Canelli observed four cases of stomatitis in sixteen subjects. In late congenital

syphilis, certain pediatricians consider bismuth the specific for nervous symptoms. Tixier describes a case in a boy of 12 with temporary recovery under bismuth after failure of mercury and arsenicals, with relapse after six months. Even the bismuth then failed to relieve.

Basal Metabolism in the Pathology of Infants.—Stévenin says that in certain affections, eventually accompanied by changes in the basal metabolism, there are methods of diagnosis preferable to examination of the basal metabolism, but it is the best method available at present for determining and studying disturbances due to affections of the endocrine glands, particularly of the thyroid gland.

The Body Fluids in Rickets.—In thirty-four rachitic infants, aged from 2 months to 2 years, the slightly lowered calcium content of the blood seemed to testify to the active period of rickets. On irradiation, the normal level of calcium in the blood was rapidly reached and maintained. Parallel with this, a definite improvement in the rachitic lesions was established in certain cases; children with symptoms both of rickets and spasmophilia were quickly improved by the radiotherapy. Nevertheless, the low calcium level in the blood seems to be a sign and not the cause of rickets, and it may be lacking in well developed cases. In children with developing rickets and evident bone lesions, there appeared to be a constant reduction of the phosphates in the blood, sometimes to half the normal level. In old, established rachitic lesions the phosphate as well as the calcium concentration in the blood seemed normal. A number of rachitic children in whom the fixed concentration of inorganic phosphates had been determined, were exposed to the rays from a 1,200 candle power arc lamp at 0.80 m. A rapid and constant increase in the concentration resulted, attaining its maximum in about fifteen days. The level regularly rose to normal or temporarily surpassed it. This elevation was more constant and rapid than that of the calcium in the blood, not always parallel to it, and could appear without it. Equally favorable results were obtained with a 3,000 candle power quartz lamp. The inorganic phophorus blood content constantly returned to normal under the ultraviolet rays.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 165-219 (Feb. 6) 1925

*Laws of Heredity. E. Apert.—p. 165.
Arsenic in Treatment of Pernicious Anemia. Dufour and Baruch.—p. 169.
Syncope on Puncture of the Pleura. H. Barbier.—p. 171.
Raynaud's Syndrome Due to Syphilitic Arteritis. H. Grenet and L. Pellissier.—p. 173.
*Laryngeal Crises in Cancer of Esophagus. Harvier and Baridty.—p. 176.
Epithelial Lesions in Gastritis. F. Ramond et al.—p. 181.
*Varicellar Zoster. E. C. Aviragnet et al.—p. 185.
Proof of Varicellar Zoster. Netter.—p. 192. See Paris Letter, p. 909.
Urticaria in Malaria. Dumitrescu-Manta.—p. 200.
Autoserotherapy in Encephalitis Sequelae. D. Paulian.—p. 203.
Pleurisy from Paratyphoid B Bacillus. G. Brouardel et al.—p. 204.
*Peptone Reactions in Hay-Fever, Paroxysmal Coryza and Asthma. Pasteur Vallery-Radot and P. Blamoutier.—p. 206.
*Leukemia and Tuberculosis. P. E. Weil et al.—p. 215.

The Laws of Heredity.—Apert affirms that study of thousands of family trees, published by the Eugenics Laboratory at London, has failed to confirm, in most cases, Benard's laws of the first-born and of alternance in hereditary affections. Even in cases with a mendelian dominant factor, as for instance in Huntington's chorea, in hereditary lack of phalanges, or in night-blindness, the evidence of these laws was not manifest. He cites Lewis and Embleton's investigation on eighty persons in five generations with a number presenting claw hands. The law of the first-born failed in two out of nine families, while the law of alternance was manifest only in two out of nine. No conformity to these laws was evident in the hereditary hemeralopia in ten generations of the Nougaret family, embracing 2,121 persons. The 135 subjects affected, in accordance with mendelian laws, had 50 per cent. affected, of their ninety children. The occurrence of the hereditary affection was manifestly not governed by Benard's laws of the first-born and alternance in births.

Laryngeal Crises with Cancer of the Esophagus.—The paroxysms of dyspnea in the case reported were accompanied by a rapid rise in blood pressure. Venesection brought the blood pressure down at once, at the same time that it relieved the suffocation in the man, aged 75.

Pathogenesis of Zoster and Chickenpox.—Aviragnet, Huber and Dayras observed a case of typical zoster followed in two weeks by typical varicella in other members of the family. Also a case of associated zoster and chickenpox, the whole evidently produced by the chickenpox virus. The occurrence of contagion testified to a common specific agent for both the zoster and the varicella.

Peptone Reactions in Affections Traceable to Anaphylaxis.—An intradermal injection of 0.1-0.3 c.c. of a 50 per cent. solution of peptone was followed by a hemoclastic crisis in seven of thirteen patients with hay-fever, asthma, migraine or urticaria—all types of sensitization processes. Desensitization was realized by this means, more or less completely, in the hay-fever, asthma and paroxysmal coryza cases, not in the others.

Correlation Between Leukemia and Tuberculosis.—Weil, Wall and Pollet report the necropsy findings in five cases of leukemia with regard to existing tuberculosis. In one case of lymphatic leukemia the tuberculous infection seemed to be primarily localized in the glands of the neck. In a case of myelogenous leukemia the tuberculous process affected the glands, spleen, liver and lungs. In three other cases the tubercle bacilli were not detected in any organ. The frequent coincidence of both affections, predominant or even exclusive localization of the tuberculosis in the hematopoietic organs in leukemia, and the localized tuberculous affection of the glands in the beginning of the leukemia suggest that the latter may be provoked by the tuberculous infection.

Comptes Rendus de la Société de Biologie, Paris

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*Leukocytes Under Colloidal Gold Treatment. V. Conterno.—p. 228.
*Respiratory Metabolism. A. O. de Almeida and B. de A. Fialho.—p. 230.
*Intestinal Parasites in Pathogenesis of Goiter. Borrel et al.—p. 232.
*Experimental Typhoid in Guinea-Pigs. J. Dalsace and M. Gory.—p. 237.
*Cholesterol in Breast Milk. H. Dorlencourt and E. Palfy.—p. 239.
*Structure of the Thymus. L. M. Betances and J. de Luna.—p. 241.
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*Preparation of Streptococcus Anatoxin. C. Zoeller.—p. 244.
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Absorption by Mucous Inhibited by Epinephrin, etc. B. Douglas.—p. 265.
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*Vitamin C. Deficiency. G. Mouriquand et al.—p. 269.
*Avitaminosis C and Glycemia. G. Mouriquand et al.—p. 271.
Mineral Content of Cancers. A. Policard and D. Pillet.—p. 273.
*Glycosuria in Infants with Abiotrophy. Banu et al.—p. 275.
*Water Metabolism in Normal Infant. Banu et al.—p. 277.
Research on Vasomotors in Man. Danielopolu and Aslan.—p. 280; 283; 285; 288.
*Specific Treatment of Erysipelas. Goresco and Popesco.—p. 291.
*Vaccination and Relapses in Erysipelas. T. Mironesco.—p. 293.
Insulin and Cholesterol Metabolism. Nitzescu and Cadariu.—p. 296.
Glycolysis in Normal and in Pancreatectomized Dogs. I. I. Nitzescu and I. Cadariu.—p. 298.
Peculiar Dermatosis in Certain Brazil Region. O. da Fonseca.—p. 305.
Immunization Against Tetanus with Toxoids (Anatoxins). J. L. Monteiro.—p. 309.
Bacteriophagy Influenced by Concentration of Bacteria. J. da Costa Cruz.—p. 310.

Changes in Leukocytes Under Colloidal Gold Treatment.—Conterno injected intravenously from 1 to 5 c.c. of colloidal gold (0.1 per cent. gold). Each injection caused an immediate reduction of leukocytes, with the lymphocytes particularly involved. This was soon followed by an increase, surpassing the normal figures. The phenomenon was most characteristic in cases in which the treatment proved successful. It is a question whether the increase in lymphocytes is the cause or the consequence of the beneficial action of colloidal gold treatment.

Action of Central Nervous System on Respiratory Metabolism.—In experiments made by Almeida and Fialho in frogs, the respiratory metabolism proved to be five-fold more intense with a normal central nervous system than after it had been destroyed. The nervous system may influence the muscle tonus, or its action may be directly trophic.

Intestinal Parasites in Pathogenesis of Goiter.—Investigation of endemic goiter in a suburb of Strasbourg demonstrated

that up to 40 per cent. of the schoolchildren had goiter, and that 66.4 per cent. of the children with goiter used water from wells. It was found further that 61 per cent. of the children affected with goiter lived on the ground floor. Borrel, Boez and Freysz emphasize the rôle which contact with contaminated soil plays in intestinal infestation. Parasites were found in the stools of 90 per cent. of the girls in the goiter district and only in 25 per cent. living elsewhere. These and other data presented suggest a possible intestinal origin of goiter.

Experimental Typhoid in Guinea-Pigs.—Dalsace and Gory provoked in guinea-pigs visceral lesions, similar to those of typhoid fever in man, by subconjunctival injection of 0.5 c.c. of culture of paratyphoid B bacilli. Cultures could be obtained from the blood almost at once after the inoculation, and the lesions developed rapidly without any period of incubation. Other guinea-pigs were immunized with typhoid bacilli, and were injected with paratyphoid B bacilli fifteen or twenty days later. Some of the animals are still alive, two months after one or two otherwise lethal doses of the paratyphoid culture. Several died between eight and forty-five days, while all the control animals died the fifth or seventh day after one dose of the culture.

Physiologic Changes in Cholesterol Content of Breast Milk.—The average amount of cholesterol in breast milk, after six to nine months of lactation, is 0.0218 per cent. The quantity of cholesterol did not always parallel the quantity of fat. The older the woman, the more cholesterol in the milk. The percentage seemed to be higher, the older the milk. The cholesterol content was always higher at the end of the feeding, contrary to what occurs in the colostrum. The cholesterol content dropped by 50 per cent. after retention of milk in the breast for twelve or sixteen hours.

Structure of the Thymus.—Betances and Luna point out the similarity in structure of the thymus in sheep with that of the spleen and of the lymphatic glands.

The Dick Toxin Vaccination.—Zoeller injected the Dick toxin in ten subjects with a positive Dick reaction. Each was given three injections of 150, 300 and 600 Dick units. A local reaction was manifest in eleven out of thirty injections; the reaction was most pronounced after the first injection. The Dick reaction became negative in two of the ten subjects, after two injections. After three injections in seven subjects, the Dick reaction became negative in two, persisted in four, and was weakly positive in one. After four injections, a negative reaction was noted in two out of three subjects. Vaccination with diphtheria anatoxin, coincident with the antistreptococcus vaccination, was tried in another series, all with negative Dick reaction; three subjects with a negative anatoxin reaction and a negative Dick reaction were inoculated with 0.5 c.c. of anatoxin and with 0.5 c.c. of diluted streptococcus toxin. Only one of the three responded with a slight local reaction to the Dick toxin. Inoculation was also made in four subjects with a negative anatoxin reaction and a positive Dick reaction. A general reaction did not occur, and the local reaction was not pronounced. A mild local reaction, with some fever, occurred after simultaneous injections in a subject with a positive anatoxin reaction and a negative Dick reaction. Zoeller emphasizes that if the streptococcus is not the specific agent in scarlet fever, its presence merely enhancing the gravity of the disease, then the antistreptococcus vaccination in scarlet fever may be analogous to the nonspecific polymicrobian vaccination proposed for influenza. If the streptococcus is the causative factor in scarlet fever, then it should be borne in mind that the streptococcus is virulent as well as toxic. Hence an antitoxic vaccination might perhaps leave the field free for the manifestations of the virulence of the streptococcus.

Preparation of Streptococcus Anatoxin.—Zoeller noted a manifest action of formaldehyd plus heat on the toxins obtained from four or six day old streptococcus cultures in peptone bouillon free from blood serum. A toxin active at 1:500, after it had been treated with formaldehyd in a proportion of 1:100, did not produce a local reaction, even in the proportion of 1:10. A 20 per cent. neutral solution of formaldehyd was added to 10 c.c. of streptococcus toxin in doses of 0.1 to 0.4 c.c. The toxin thus transformed may be injected at once in 1,500 to 2,000 Dick unit doses. If the experiences under way establish that the formaldehyd does not destroy the antigen, a streptococcus anatoxin is thus at our disposal.

Syndrome of Hypoglycemia.—Weill and Laudat induced in a woman with renal diabetes a considerable hypoglycemia by administration of glucose, without insulin. Besides hunger, and weakness in the legs, no other phenomena occurred like those common in the hypoglycemia syndrome under insulin treatment. Evidently the other disturbances, including muscular incoordination, dizziness, and ocular changes, do not depend on the hypoglycemia, but are due to secondary actions of insulin.

Intradermal Vaccination Against Anthrax in Cattle.—Monod and Velu conclude from the experiences on 21,640 cattle, sheep, pigs and horses in Morocco that the single intradermal vaccination against anthrax is at least as effectual as the subcutaneous injection. It proved harmless in already contaminated herds. Considering the rapid development of the refractory phase, the vaccine can be administered without a preliminary injection of serum.

The Bacteriophage.—In Arloing, Langeron and Sempé's experiments, the bacteriophage principle proved to be different from diastases and from the complement in serum. Filtration, heat, or adsorption may exert an action on the last two mentioned, but all respect the bacteriophage principle.

Phosphorus and Calcium in Vitamin C Deficiency.—Mouriquand, Leulier and Michel affirm that there were no signs of either decalcification or dephosphorization in the bones of guinea-pigs on a vitamin C deficient diet, not even in cases with extremely fragile bones. Changes in the ossein may be a factor in scurvy. Lack of vitamin C was not accompanied in guinea-pigs by a changed glycemia. Also large doses of sugar, especially lactose, did not modify the glycemia. This condition under vitamin C deficiency was identical with that in animals receiving large doses of antiscurvy substances.

Glycosuria in Infants in State of Malnutrition.—Research was made on eighteen infants with abiotrophy, aged from three weeks to six months. All had been fed with cow's milk plus 10 per cent. sugar. A constant glycosuria was manifest in fourteen of the infants. Banu, Negresco and Heresco conclude that in chronic malnutrition the secretion of intestinal ferments is defective in regard to splitting of carbohydrates. The functioning of the intestinal mucosa is also defective. Therefore the sugar cannot be utilized, and this contributes in part to the atrophy. The reduced lactic fermentation is followed by an increase of germs and their toxic products.

Water Metabolism in Normal Infant.—Banu, Negresco and Heresco applied overloading tests to twelve normal infants, aged from two to six weeks, studying the ratio between the intake and the elimination of the fluid. After ingestion of from 25 to 30 gm. of tea per kilogram, they noted a marked dilution of the blood, and a return to normal after an interval which was shorter than in the adult. Also loss in weight, with an important dehydration of the tissues, was manifest.

Antistreptococcus Serum in Erysipelas.—Goresco and Popesco obtained excellent results in eighty cases of erysipelas treated with a polyvalent antistreptococcus serum. Albuminuria, accompanying the erysipelas, disappeared rapidly under the treatment. Mironesco adds that relapses are frequent under this treatment. In one case there were two relapses at fifteen day intervals; in a second case five days, and in a third, two days after the apparent cure.

Médecine, Paris

6: 333-408 (Feb.) 1925

Neurology in France in 1924. Laignel-Lavastine.—p. 333.
*Heart Disturbances from Diphtheria. Achard and Thiers.—p. 349.
Preventive Treatment of Encephalitis Sequelae. J. Lépine.—p. 354.
General Paralysis without Meningitis. D. Anglade.—p. 356.
*Nasofacial Reflex. P. E. Weil and Lévy-Franckel.—p. 360.
*Peripheral Argyll Robertson Sign. L. Dupuy-Dutemps.—p. 365.
Neurodermatites. L. Lortat-Jacob.—p. 368.
*Neuritis in Tuberculosis. J. Lévy-Valensi.—p. 374.
Nervous Pseudo-Phosphaturia. M. P. Weil and Guillaumin.—p. 379.

Heredity in Epilepsy. F. Minkowska.—p. 383.
What Can the Physician do for Juvenile Delinquents? A. Collin.—p. 386.
Treatment in Hypomania. P. Courbon.—p. 392.
What Can the Physician do for the Interned Insane? J. Raynier and H. Beaudouin.—p. 396.

Extracardiac Nervous Heart Disturbances in Diphtheria.—Achard and Thiers observed bradycardia in two cases of postdiphtheric paralysis in patients, aged 26 and 29. The oculocardiac reflex was exaggerated in both, inducing even complete arrest of the heart in one instance. They explain this by paralysis of the sympathetic nerve and center. Defective accommodation and the negative atropin test in both subjects confirmed, they say, their theory.

Nasofacial Reflex in Diagnosis.—Weil and Lévy-Franckel suggest to explore the nasofacial reflex in examination of the sympathetic excitability. Study of this reflex is less painful than the oculocardiac reflex. While the patient is reclining, fixing his eyes on one point in the ceiling, a cotton-wound probe is introduced into the nostril, to the superior meatus. Several minutes later the same procedure is applied to the other side of the nose. Intense congestion in the examined side, rapid and intense lacrimation and the condition of the pupils (mydriasis, miosis or hippus) indicate excessive sympathetic excitability. The simultaneous changes in the pulse demonstrate the general excitability of the sympathetic system, by way of the nasocardiac reflex.

Argyll Robertson Pupil Not a Conclusive Sign of a Central Lesion.—Clinical observation has convinced Dupuy-Dutemps that the Argyll Robertson pupil sign is frequently due to a peripheral lesion, affecting the neuromuscular apparatus of the iris. The lesion is limited to the sympathetic area of the ciliary neuron, either primarily localized in the cells of the ciliary ganglion or of the choroid, or in the ciliary nerves.

Neuritis in Tuberculosis.—Lévy-Valensi noted only one case of sensory and motor polyneuritis of tuberculous origin in 2,000 tuberculous patients. Cases of tuberculous neuritis, of the sensory type, were found in six subjects among 850, predominantly in women, in a proportion of five women to one man.

Paris Médical

83: 145-160 (Feb. 14) 1925

Sicard's Iodized Oil Tests. H. Roger.—p. 145.
*Congenital Bronchiectasis in Adult. M. Villaret et al.—p. 150.
*Suprarenal Encephalopathy. R. Targowla.—p. 153.
Advantages of Regular Routine for the Elderly in Encroaching Senile Mental Impairment. G. Paraftis.—p. 159.

Congenital Bronchiectasis in an Adult.—Villaret, Dumont and St. Girons' patient was a woman, aged 32. The first phase of the anomaly had been latent and lasted till adolescence, as the dilatation of the bronchi had only slightly impaired respiratory function. The second phase—when infection had set in—simulated a tuberculous cavity in one apex; the third phase presented symptoms suggesting adhesive pericarditis, although there were no physical signs to confirm it, with secondary infection of the peritoneum. Death followed a profuse hemorrhage from the dilated bronchi. Necropsy revealed the real character and congenital nature of the disease, mistakenly interpreted before. Syphilis had probably been a factor in the malformation.

Hebephrenia with Suprarenal Deficiency.—In the case described, the symptoms suggesting hebephrenia and the syndrome of suprarenal deficiency are ascribed to the condition of puberty. A predisposition, created by previous infections (typhoid fever, pneumonia), also glandular changes, connected with puberty, may explain the associated syndrome. The boy of 15 recovered, since the disturbances were of functional and not of organic nature. Targowla adds that the total duration of this suprarenal encephalopathy was five weeks, including one week of acute delirium. The boy was of a rather infantile type.

83: 161-192 (Feb. 21) 1925

Nevus Cancers. B. Bloch.—p. 161.
Helminths and Cancer. C. Joyeux.—p. 171.
*Pathogenesis of Lymphogranuloma. M. Favre and A. Colrat.—p. 177.
*Serodiagnosis in Cancer. J. Lavedan.—p. 185.

Parasites in Pathogenesis of Lymphogranuloma.—Favre and Colrat do not believe that Hodgkin's disease can be produced by pseudodiphtheria bacilli. However, the pruritus coexisting with eosinophilia in both blood and tissues, suggests a parasitic origin for the disease.

Serodiagnosis in Cancer.—After having analyzed all the current methods for serodiagnosis of cancer, Lavedan reiterates that, so far, none of these methods is reliable for the early diagnosis of malignant disease. The only reservation he makes is in regard to the modified method of Botelho, which is still on trial.

Presse Médicale, Paris

33: 201-216 (Feb. 14) 1925

*After-Effects of War Gases. E. Sergent.—p. 201.
*Eosinophilia in Scarlet Fever. Markovitch and Gueratovitch.—p. 205.

After-Effects of War Gassing.—Summarized in the Paris Letter, March 14, p. 830.

Diagnostic Value of Eosinophils in Scarlet Fever.—Markovitch and Gueratovitch summarize the results of their investigation in thirty cases of scarlet fever with regard to eosinophilia. It is highest in mild forms of scarlet fever free from complications. The eosinophils often surpassed 12 per cent., reaching sometimes 19 per cent. The percentage was low in the acute stage of a grave form; with complications, it varied between 1 and 3 per cent. In fatal cases eosinophilia was absent; the count was normal. The eosinophil count may be valuable in diagnosis of abortive forms of scarlet fever, and in misleading erythemas.

33: 217-232 (Feb. 18) 1925

Neuritis from Serotherapy. A. Thomas.—p. 217.
*Endocrine Glands, Cholesterol and Gallstones. G. Parturier.—p. 219.
Peptic Ulcer in Meckel's Diverticulum. J. Senèque.—p. 221.

Rôle of Endocrine Glands in Lithiasis.—Parturier attributes the origin of gallstones to an excess of cholesterol in the blood. Intoxications and infections, inducing colloidoclastic shocks, changes in the vagosympathetic system, and disturbances in the endocrine glands, cause the excess of cholesterol in the blood. Hypercholesterolemia may be also a reflex phenomenon from changes in the gallbladder. An excessive concentration of cholesterol in the epithelium of the biliary tract may be the causal factor in gallstone production. He calls attention in conclusion to the reduction of hypercholesterolemia under insulin treatment, which he regards as significant.

33: 233-248 (Feb. 21) 1925

Physiologic Action of Epinephrin. B. A. Houssay.—p. 233.
*Mitral Stenosis with Interauricular Opening. R. Lutembacher.—p. 236.

Congenital Mitral Stenosis with Interauricular Opening.—Lutembacher's explanation is that in the first months of fetal life the whole blood from the inferior vena cava passes into the left auricle through the foramen ovale. While stenosis of the orifices in the right heart maintains the interauricular circulation, stenosis in the left heart opposes this circulation. Hence a reflux of the blood occurs in the oval foramen, interfering with its closing.

Revue de Chirurgie, Paris

63: 1-80 (Jan.) 1925

*Chronic Arthritis of Hip. P. Delbet and P. Mornard.—p. 13.
Lymphatics of Rectum and Anus. F. Villemin et al.—p. 39.

Chronic Arthritis of Hip in Adults.—Delbet and Mornard describe a definite clinical form of chronic arthritis in adults, characterized by subluxation and progressive ankylosis, and easily diagnosed. Although unable to propose any efficacious treatment, they report their six cases to help prevent confusion of this affection with tuberculosis of the hip joint. This mistake had occurred in one of their cases.

Schweizerische medizinische Wochenschrift, Basel

55: 114-132 (Feb. 5) 1925

*Growth of Sex Organs. H. Guggisberg.—p. 114.
*Irradiation Treatment. S. Rothman.—p. 121.
*Surgery of Diverticulosis of the Colon. M. Gerzowitsch.—p. 124.
Tuberculosis of Trachea and Bronchi. P. Rossier.—p. 128.

Growth of Sex Organs.—Guggisberg with his collaborators confirmed the stimulating influence of Hermann's placenta

extract on the growth of the uterus in rabbits. It was also evident in castrated animals if the injections were given early after the castration. Therapeutic results in infantilism of the sex organs were not encouraging—probably because the changes were already irreparable. They also confirmed Glanzmann's observations on the importance of vitamins for the sex function. The complete absence of vitamins has a more pronounced influence than the lack of the A factor alone. General undernutrition also impairs the sex functions.

Irradiation Treatment.—Rothman identifies the action of light with a lowering of the sympathetic tonus. Increased sugar tolerance with decreased glycemia and blood pressure characterize the condition. He believes that the skin mediates in the effect, and that pigmentation is favorable. Sudden strong irradiation may cause a dangerous progress in the tuberculous process, similar to the effects of an overdose of tuberculin. Gradual increase of the time of exposure of the whole body to sunlight (on cloudy days to artificial light) is the preferable method.

Surgery of Diverticulosis of the Colon.—Gerzowitsch discusses the surgical treatment of diverticulosis of the large intestine. The retention of fecal material in the diverticula may cause inflammation and perforation or spastic phenomena. The mortality in resections in de Quervain's clinic was 12 per cent. Entero-anastomosis is less dangerous.

Policlinico, Rome

32: 161-196 (Feb. 2) 1925

Haff Disease. B. Gosio.—p. 161.
*Torsion of Spermatic Cord. G. Massa.—p. 164.
*Syphilitic Disease in Older Subjects. U. Arcangeli.—p. 167.

Torsion of Spermatic Cord.—Massa operated on two patients with torsion of the testis. The recovery was complete in a boy, aged 14, operated on within two hours. The testis atrophied in the other patient, aged 21, who had waited for a month before he decided to see a physician.

32: 197-232 (Feb. 9) 1925

Vaccines in Surgery. G. Segre.—p. 197.
Pathogenicity of Bacillus Abortus. R. Viviani.—p. 203.
Burns and Anaphylaxis. R. Giampaolo.—p. 207.

32: 61-116 (Feb. 1) 1925. Medical Section

Infectious Hypertrophic Hepatitis. E. Greppi.—p. 61.
*Spirochetes Found in Blackwater Fever. Franchini and Maggesi.—p. 96.
The Pineal Gland. S. Andriani.—p. 105.

Infectious Hypertrophic Hepatitis.—Greppi's paper is based on three cases of hypertrophic cirrhosis of the liver with jaundice and splenomegaly. He believes that the condition is due to a hematogenous infection with various germs. The primary anatomic lesion is the destruction of lobules in the liver.

Spirochetes Found in Blackwater Fever.—Franchini and Maggesi found a few spirochetes in the blood and spleen of a man who came from Rhodesia, and died with typical signs of blackwater fever. No indications of malaria were observed during life or at necropsy.

Riforma Medica, Naples

41: 73-96 (Jan. 26) 1925

*Dangers from Suspension of Insulin Treatment. G. Aiello.—p. 73.
*Nonspecific Agglutinins in Cancer. G. Pennetti.—p. 74.
Bilateral Therapeutic Pneumothorax. E. Forlanini.—p. 76.
Operative Treatment of Varicose Veins. D. Taddei.—p. 80.

Dangers from Suspension of Insulin Treatment.—Aiello's patient died in coma a few days after discontinuing insulin. The patient had a positive Wassermann reaction which had turned negative during the insulin treatment. The author believes that it was a false positive, and that insulin, not the few calomel injections caused the disappearance of complement-fixing substances.

Nonspecific Agglutinins in Cancer.—Pennetti found no agglutinins for various germs in thirty cancer patients.

41: 97-120 (Feb. 2) 1925

*Autohemotherapy in Dermatology. P. Castellino.—p. 97.
*Bladder Syndrome in Intestinal Stenosis. U. Baccarani.—p. 99.
*Surface Tension of Urine. G. Sunzeri.—p. 100.
Physiopathology of the Base of the Brain. F. Negro.—p. 103.

Autohemotherapy in Dermatology.—Castellino prefers autoserotherapy with from 3 to 7 c.c. of serum to autohemotherapy. It gave good results in squamous eczema.

Bladder Syndrome in Intestinal Stenosis.—Baccarani observed repeatedly bladder tenesmus with oliguria during painful exacerbations of stenosis of the bowel. The urine was without pathologic changes. He regards the phenomenon as of reflex origin.

Surface Tension of Urine.—Sunzeri found no influence of sugar or acetone on the surface tension of urine. Addition of thymol lowers it, as is evident both with stalagmometry and with the Hay test.

Revista de la Asoc. Médica Argentina, Buenos Aires

37: 205-299, 1924. Biology Section

Influence of Manganese on Immunity Phenomena. C. E. Pico.—p. 205.
*Insulin in Thyroidectomized Animals. Houssay and Busso.—p. 212.
*Epinephrin and Oblongata. Houssay and Molinelli.—p. 235.
Culture Mediums for Plague Bacilli. Uriarte and Morales Villaron.—p. 281.
*Plague in Woodland Rodent. Uriarte and González.—p. 284.
Plague Bacilli Carriers. L. Uriarte.—p. 287.
Ramon's Method for Titration of Diphtheria Antitoxin. Sordelli and Serpa.—p. 289.

Insulin After Thyroidectomy.—Houssay and Busso report extensive experiments on laboratory animals which demonstrated that after thyroidectomy they were much more susceptible to the toxic action of insulin. The effect was most marked in rabbits and rats and least in dogs.

Epinephrin Content of Blood Increased by Stimuli to Oblongata.—Houssay and Molinelli found that a discharge of epinephrin into the blood followed puncture or electric stimulation of the oblongata in their experiments on sixteen dogs, and in a recent series of pairs of dogs with anastomosis between the suprarenal vein of one and the jugular vein of the other. Electric stimuli are most potent. They give four pages of bibliography.

Plague Infection of Wild Rodent in Argentina.—The woodland rodent in question is *Cavia aperea*, or cavy, and it can be interbred with guinea-pigs. Several small epizootics of plague have been noted among them, and more than once these epizootics have coincided with cases of plague in man.

Revista Médica del Uruguay, Montevideo

27: 597-676, 1924

Cerebellar-Pyramidal Hemiplegia in Woman of 44. Montes Pareja and Thevenet.—p. 597.
Official Report on Infant Welfare and Wetnursing, 1923. J. A. Bauzá.—p. 611.
*Essential Orthostatic Albuminuria. J. Montes Pareja.—p. 633.

Orthostatic Albuminuria.—Montes Pareja found the urine normal except for the albumin in the boy of 16 whose case is described. In applying various tests, he noted that the leukocyte count varied with the albumin content of the urine, normal during and after reclining, and exaggerated in the erect posture. His analysis of this and similar cases has convinced him that postural albuminuria is the result of a loss of vagosympathetic balance. This entails an excessive secretion of hydrochloric acid in the stomach, which in turn, by a complex mechanism, modifies conditions to the point in which the disturbances become manifest in the form of albuminuria and leukocytosis. The curves of these correspond to the curves of leukocytosis after ingestion of certain foods. On the other hand, the same therapeutic measures arrest both the orthostatic albuminuria and the digestion leukocytosis. He cites also Prost and Thomas' dictum that any albuminuria that resists alkalinization of the urine cannot be classed as a simple orthostatic albuminuria. The Widal "hemoclastic crisis" is probably due to a similar upset in the vagosympathetic balance, independent of liver functioning, and also of true hemoclasis which is an upset in the physical-chemical balance of the blood.

Dermatologische Zeitschrift, Berlin

43: 1-126 (Feb.) 1925

Knobby Fibrosarcoma of the Skin. E. Hoffmann.—p. 1.
Parallel Serologic Tests in Diagnosis of Syphilis. Behrmann.—p. 29.

*Pathogenesis of Herpes Zoster. E. Lehner.—p. 33.
Late Flocculation in Syphilis Test Reaction. F. Weyrauch.—p. 40.
Unusual Exudative Polymorphous Dermatosis. D. Kirschenblatt.—p. 43.

Pathogenesis of Herpes Zoster.—Lehner examined histologically zoster skin changes one to two hours old, and describes his findings in four instances. The hydropic swelling was demonstrable early under the microscope, generally before the serous exudation. Simultaneous pronounced inflammation was seen in the papillary layer and the corium. The cogulation necrosis of the cells and the formulation of vesicles were not evident for six hours. Primary injury of vessels was not established. Bacteriologic examination of the blood and serum from the pustules or adjacent lymph glands was negative. Lehner's view that the zoster virus reaches the skin by the blood, and then produces an inflammation in the veins and simultaneous necrobiosis of the epithelial cells does not exclude the rôle of the nervous system. Vörner believes that two factors are concerned, a nerve lesion (usually from trauma), and a toxic substance. Lehner presents evidence to confirm this. The sensitization of the skin area supplied by the nerve allows a quantity of toxic substance, too small to affect normal skin regions, to produce the zoster changes in this area.

Deutsches Archiv für klinische Medizin, Leipzig

146: 145-256 (Feb.) 1925

Diuresis and Diuretics. III. B. Stuber and A. Nathansohn.—p. 145.
*Cotton Dust and the Lungs. K. Schilling.—p. 163.
*Value of Meat, Potatoes and Wheat. S. Lauter and M. Jenke.—p. 173.
The Chemistry of the Pancreas. G. Hoppe-Seyler et al.—p. 187.
Banti's Disease and Liver Function. F. Goebel.—p. 202.
Blood Pressure Determination. H. von Recklinghausen.—p. 212.
*Monocytic Macrophages in Infections. F. W. Kartaschowa.—p. 226.
Noncoagulable Nitrogen and Uremia. H. Fischer.—p. 233.

Cotton Dust and the Lungs.—Schilling found no distinct pneumoconiotic changes in workers in cotton mills. The only changes were an increased predisposition to bronchitis and emphysema. The tuberculosis rate was not above the average.

Food Value of Meat, Potatoes and Wheat.—Lauter and Jenke point out that the biologic value of different substances is relative. The protein avidity of the body—which depends on its previous supply or loss—plays a great rôle. In otherwise equal conditions, a minimum of meat—corresponding to 115-120 per cent. of the excreted nitrogen—was necessary to keep up the nitrogen balance. With potatoes, the figure rose to 120-135 per cent. and with wheat flour, to 160-175 per cent. This is due to the resemblance of the proportion of amino-acids in the meat to that of the body.

Monocytes in Infections.—Kartaschowa reproduces pictures of macrophages found in the peripheral blood in malaria, typhus, endocarditis and recurrens. They are large (60-70 microns) and of the monocyte type.

Medizinische Klinik, Berlin

21: 191-228 (Feb. 6) 1925

Diet in Nephritis. F. Klewitz.—p. 191.
*Paroxysmal Oxaluria. F. Lommel.—p. 194.
*So-Called Arsphenamin Jaundice. Hübner.—p. 195.
*Gastric Hemorrhage and Stenosis in Infants. H. Kleinschmidt.—p. 196.
*Surgery of Bronchial Asthma. A. Böttner.—p. 197.
*Recurring Tetanus. J. Hürter.—p. 198.
*Kidney Function in Addison's Disease. G. Rosenow.—p. 202.
*Acute Lymphadenosis with Lymphocytosis. G. Leendertz.—p. 204.
*Intestinal Origin of Pernicious Anemia. G. Lepehne.—p. 205.
Kidney Shadow in Pneumoperitoneum. W. Teschendorf.—p. 207.
*Surgical Acidosis. H. Stegemann and P. Jaguttis.—p. 209.
Irradiation of Cancer of Breast. Holfelder.—p. 213.
Survey on Gynecology. W. Liepmann and W. Brusten.—p. 216.

Paroxysmal Oxaluria.—Lommel draws attention to paroxysms of pains resembling renal colic, and associated with an increased amount of calcium oxalate crystals in the urine. He does not claim that this is an indication of an increased production of oxalic acid. The urine represents always an oversaturated solution of calcium oxalate, kept in solution probably by protective colloids. He believes that if these are deficient, the oxalate precipitates in the kidney and causes the colic. He is skeptical about the results of dietary restrictions. These patients are nervous, and they recover spontaneously or after changing their habits.

So-Called Arsphenamin Jaundice.—Hübner regards most of the cases of so-called arsphenamin jaundice as due to inadequate treatmept. This applies especially to the jaundice which develops several months after the treatment. The undernourished men during the war were liable to injury of the liver because of the depletion of protecting glycogen. Many infectious diseases presented icterus. Some of the injuries were due to adulteration of the arsphenamin.

Gastric Hemorrhage and Stenosis in an Infant.—Kleinschmidt reports a case of bleeding ulcer near the pylorus in a nursling with pylorospasm. He attributes the ulcer to local ischemic changes from contraction of the muscular coat. The baby died after a marked transitory improvement. In the future he intends to regard the first sign of hemorrhage as an indication for operation.

Surgery of Bronchial Asthma.—Böttner observed three patients treated by unilateral extirpation of the cervical sympathetic ganglions. Each patient had recurrence of the attacks after a brief period of amelioration. Epinephrin arrested the attacks after the operation as well as before. He would consider surgery only as the last resort in bronchial asthma after all—really all—other measures had failed.

Recurring Tetanus.—Hürter publishes a case of tetanus which occurred after a wound from scraps of a shell. There were five more or less grave relapses of the condition in the course of six years. The fifth attack was typical and fatal.

Kidney Function in Addison's Disease.—Rosenow observed in several patients with Addison's disease impaired elimination of water and solids.

Acute Lymphadenosis with Lymphocytosis.—Leendertz describes a case of glandular fever in himself. He confirms the absolute and relative lymphocytosis. The tonsillitis was unilateral and necrotic. He emphasizes the importance of differential blood counts.

Intestinal Origin of Pernicious Anemia.—Lepehne believes in the intestinal origin of pernicious anemia. He failed, however, to find characteristic histologic changes in the intestinal wall and in the mesenteric lymph nodes at necropsy in twelve such cases.

Surgical Acidosis.—Stegemann and Jaguttis determined the amount of acetone and beta-oxybutyric acid in the urine before and after operations. It was increased in about two thirds of the 381 patients tested. The maxima were in eight and forty-eight hours after the operation in subjects with no or slight preoperative acetonuria. Where the elimination was strong before the operation, the maximum was reached in eight hours and a gradual decrease followed. Emotion seems to be the important predisposing factor. Exophthalmic and other goiters were especially frequently accompanied by acetonuria. The symptom does not mean acidosis. Sodium bicarbonate and glucose are necessary only with distinct clinical signs of acidosis.

Monatsschrift für Geb. und Gynäkologie, Berlin

68: 199-282 (Feb.) 1925

Placenta Accreta and Diverticulum Pregnancy. E. Lehmann.—p. 201.
The Metrasulfate in Treatment of Abortions. K. Kaiser.—p. 217.
Statistics on Abortions. M. Gerstmann.—p. 220.
*The Eclampsia Question. E. Mathias and A. Pincsohn.—p. 229.
*Differential Diagnosis in Eclampsia. I. Teiber.—p. 240.
*Acute Yellow Atrophy of the Liver After Delivery. F. Gross.—p. 244.
*Origin and Treatment of Leukorrhea. E. Löwenstein.—p. 248.
Grave Puerperal Sepsis Lasting Eight Months. M. Greiffenberg.—p. 261.
Case of Ovarian Goiter-Like Tumor. J. Koerner.—p. 264.
The Nonburning Quartz Lamp. E. Kleemann.—p. 268.
Ileus After Ventrifixation. B. Markus.—p. 271.

Eclampsia.—Mathias and Pincsohn regard the necrotic areas in the liver as the most characteristic of the organic changes in eclampsia. In their case in a secundipara, aged 26, with old Bright's disease predominating, there was recent profuse perirenal hemorrhage. They believe perirenal hemorrhage in eclampsia has not been previously described. Old vascular changes are a predisposing cause of some sudden rise in blood pressure, which is the direct cause of the rupture of the vessel. Volhard incriminates the blood pressure-raising peptones for the tendency to vascular spasm.

Eclampsia may aggravate kidney changes; and eclampsia and a certain form of nephrosis have common roots. Defective elimination, as in Bright's disease, must lead to retention of toxic products of albumin decomposition. In its mildest form, the toxic action causes pregnancy nephritis; in the gravest form, spastic-anemic necrosis of parenchyma. The convulsions are the clinical expression of this intoxication by intermediary products of metabolism and the resulting changes in vital organs.

Differential Diagnosis in Eclampsia.—In the first of Teiber's two puzzling cases, in a woman, aged 30, admitted under the diagnosis of eclampsia, encephalitis from arsphenamin intoxication was suspected, and was confirmed by necropsy. His other case, in a woman, aged 23, was originally diagnosed as early eclampsia, and then tentatively as epilepsy, but syphilis of the central nervous system was finally established. He notes that in both instances the pseudo-eclampsia occurred during pregnancy. Wechselmann's assumption of a pregnancy predisposition to arsphenamin intoxication on simultaneous administration of mercury, would explain the second case. The patient had been given 1 c.c. of a mercurial preparation, and this was followed by symptoms characteristic of mercuric chlorid poisoning. The arsphenamin may have been retained in consequence of the kidney changes, the resulting convulsions and urine condition misleading at first to the diagnosis of eclampsia. Under arsphenamin treatment, recovery was soon complete.

Acute Yellow Atrophy of Liver After Delivery.—Gross describes a case of special interest because of the difficulty in diagnosis. The primipara, aged 24, with a history of good health and normal pregnancy, the second day after delivery developed fever, pronounced jaundice and the aspect of severe toxic illness. Attacks of cyanosis with convulsions suddenly set in on the following day; the third attack lasted about fifteen minutes and resulted fatally. Administration of camphor and caffein, oxygen, and intracardiac injection of epinephrin failed to stimulate the heart.

Origin and Treatment of Leukorrhea.—Löwenstein says that, among the causes of leukorrhea, infestation with oxyuris is common, but the treatment sought by the patient is only for the resulting manifestations. As in vaginitis, there are marked signs of inflammation of vaginal mucous membrane, with profuse discharge. In neurasthenics the aspect of the woman is characteristic, and her annoyance and worry enhance the morbid condition. Such cases are not especially uncommon. The discharge represents hypersecretion of the cervical glands. Pronounced hypertonia may be present, sometimes with endocrine disturbances. In these cases, he recommends suggestion or hypnosis as the most effective treatment. An affection of the vagina and endometrium in working women with hereditary defects, with asthenia, tuberculosis, anemia or chlorosis is only the local expression of a general disturbance of the organism, and the primary aim of treatment must be improvement of the general condition. These different forms of leukorrhea are alike in not being a morbid entity in themselves but only a symptom of one. The treatment demands correction of the cause.

Münchener medizinische Wochenschrift, Munich

71: 205-248 (Feb. 6) 1925

*Chronic Infectious Endocarditis. F. O. Hess.—p. 205.
*Acute Experimental Appendicitis. Heile.—p. 209.
*Dorsal Kyphosis of Adolescents. C. Mau.—p. 211.
*Blue Scleras. E. Wiechmann and H. Paal.—p. 213.
*Infection and Disease. F. Hamburger.—p. 215.
*Correlation of Endocrine Glands. B. Mendel.—p. 218.
*Dry Complement. A. Poehlmann.—p. 222.
*Facial Neuralgia. D. Kulenkampff.—p. 224.
*Pseudo-Anthrax in Man. E. Seifert.—p. 225.
Treatment of Exophthalmic Goiter. M. Kohlmann.—p. 226.
*Isotopic Treatment of Tuberculosis. H. Cricheli.—p. 227.
"Treatment of Morphinism." Meyer.—p. 228. Reply. R. v. Hoesslin.—p. 228.
Death After Injection of Colloidal Silver. Litzner.—p. 229.
Prevention of Death in Obstetrics. M. Samuel.—p. 229. Conc'n.
*Fight Against Tuberculosis in the Ukraine. N. Morosowski.—p. 231.
Roentgenologic Training. G. Holzknecht.—p. 233.

Chronic Infectious Endocarditis.—Hess believes that other germs besides streptococci may cause the affection which had been described clinically by other authors before it was called by Schottmüller "endocarditis lenta." The green streptococcus seems to be a form changed by the infected organism—instead of being the specific agent. The leukocyte count varies not only in different stages of the disease but also according to the place (ear, finger, vein) where the blood was taken. Endothelial cells may be found almost constantly in the first drop dripping from the ear. Hemorrhagic nephritis is almost constant, and predominates clinically in a number of cases. Red cells are always found in the sediment—sometimes with only a slight or negative reaction for albumen. The Wassermann reaction is frequently positive (in fifteen out of his seventy-seven cases). He believes that it indicates syphilis. Emboli and infarcts are common. The disease may clinically begin and end with an embolus or an aneurysm. One of his patients recovered, although the nephritis has persisted.

Acute Experimental Appendicitis.—Heile succeeded regularly in producing acute perforating appendicitis in dogs, when he ligated the appendix containing material capable of decomposition. The results were positive only if the dogs were overfed or diarrheic. Completely split up material is innocuous. He believes that proteinogenous amins cause the process as well as peritoneal symptoms. Their resorption from the peritoneal cavity precedes its invasion by microbes.

Dorsal Kyphosis of Adolescents.—Mau draws the attention of practitioners to the syndrome described by Scheuermann. The kyphosis is stiff—not the habitual weak round back. It occurs usually after puberty in muscular boys doing heavy work (farm workers, furniture makers). Roentgenologic changes in the epiphysis of the body of the seventh to the tenth dorsal vertebrae point to a similarity with other pubertal affections brought on by strain. The treatment can be only preventive, avoiding too hard work, and supplying food containing much calcium, phosphorus and vitamins.

Blue Scleras.—Wiechmann and Paal describe a case of the characteristic triad of "blue sclerotics," brittle bones and progressive deafness from otosclerosis in a woman, aged 55. There were in the lungs multiple shadows which they regard as lime metastases. The scleras are not really blue, only the connective tissue is deficient, and the uvea shines through. The patient's father had also the eye symptom. They agree with the authors who point to an anomaly of the mesenchyma as the cause of the triad.

Infection and Disease.—Hamburger discusses the difference between infection and disease which results only if the infection takes. He concludes from agglutination tests that the rate of dysentery infection in Graz is about parallel to that of tuberculosis as revealed by tuberculin skin reactions. Some diseases with obligate infection take practically always (measles). Others take only facultatively (tuberculosis, dysentery). Other diseases with facultative infection may also be subdivided into two groups: the group of obligate affections (tetanus), and the group of facultative affections (typhoid). He agrees with Tobeitz' theory of facultative autogenesis of infectious diseases: a healthy germ carrier may suddenly develop the actual disease. He observed scarlet fever in a nurse six weeks after she had left the scarlet fever ward for the healthy infants' ward.

Correlation of Endocrine Glands.—Mendel admits the similarity between many symptoms of hyperfunction of the thyroid and hypofunction of the pancreas, and vice versa. Nevertheless this does not mean that these glands influence their function reciprocally. The correlation is only in their effects. The hypertrophy of Langerhans' islands after thyroidectomy may be due simply to a rest of the pancreas. The chromaffin system regulated by the central nervous system is not influenced by these glands, but it influences them: it increases the function of the thyroid and checks that of the pancreas. He had temporary results in treatment of exophthalmic goiter with insulin. He believes that the symptoms of Addison's disease may be due to the absence of impulses to the thyroid and absence of inhibition of the pancreas. The morbid symptoms may be due to a functional hypothyroidism and insulin intoxication. He recommends

treatment with epinephrin, thyroid and large amounts of glucose.

Dry Complement.—Poehlmann tested the properties of guinea-pig serum desiccated by a new method. The hemolytic function was not impaired, but the fixation to the amboceptor was not as good as that of fresh complement.

Facial Neuralgia.—The objective and subjective symptoms of trigeminal neuralgia have convinced Kulenkampff that it is a neurosis of the sympathetic nerve. A spasm of the arterial supply of the gasserian ganglion is probably what provokes the pain. His theory explains the occurrence of the neuralgia after extirpation of the cervical sympathetic nerve. Atropin should be tried first; injection of alcohol into the ganglion might follow. If this fails, Thiersch's extraction, and at last section of the nerve back of the ganglion might help.

Pseudo-Anthrax in Man.—Seifert's patient had pustules resembling anthrax on his forearm, and recovered after a few days. The pustules and the blood taken from the vein five minutes after the incision contained germs which resembled anthrax bacilli in every respect except for being motile and nonpathogenic for mice.

Isotopic Treatment of Tuberculosis.—Czickeli was unable to obtain a local immunity (Stoeltzner's euanergy) by inunctions or subcutaneous injections of tuberculin into the same place. The center of the field reacts less because it is injured by the repeated inflammations.

Fight Against Tuberculosis in Ukraine.—Morosowski reports on the organization of the fight against tuberculosis, prevention and treatment, in Ukraine.

Wiener klinische Wochenschrift, Vienna

38: 163-188 (Feb. 5) 1925

*Tuberculotoxin. A. V. Frisch.—p. 163.
*Chronic Syphilitic Arthritis. H. Schlesinger.—p. 166.
*Serodiagnosis of Tuberculosis. Szirmai and Venetianer.—p. 169.
*Pylorospasm in Case of Cerebellar Tumor. O. Porges.—p. 173.
Auscultation of Joints. E. Maliwa.—p. 174.
Contusion of Tendons. W. Steiger.—p. 175.
"Protein Treatment of Diabetes." W. Falta and F. Högler.—p. 176.
"Zoster and Febrile Herpes." A. Luger and Lauda.—p. 177.
*"Sex Phenomena and Otosclerosis." H. Frey.—p. 177.
Hemorrhoids and Their Sequelæ. L. Mosnkowics.—p. 177.
Birth Trauma of the Central Nervous System. R. Neurath. Supplement.—pp. 1-16.

Tuberculotoxin.—A toxic origin is frequently assumed for most of the phenomena in clinical and experimental tuberculosis. Frisch finds that this is not due to an exact knowledge of a toxin but to our lack of knowledge. He has confirmed the presence of a substance giving a skin reaction (cutin) in the blood in progressive hematogenous tuberculosis. He emphasizes the differences in the reactions in various types of tuberculosis. Wildbolz' urine reaction is positive in surgical tuberculosis because it is the secondary stage. It is frequently negative in the tertiary pulmonary process.

Chronic Syphilitic Arthritis.—Schlesinger has observed thirty-two cases of syphilitic arthritis in the last four years. The diagnosis is based on the lack of efficacy of the salicylates, even with fever; the nocturnal exacerbation of pains, circumscribed tender points, and the "pharmacologic reaction," namely, improvement under a dressing with mercurial ointment or under specific treatment, sometimes after a transitory exacerbation. The sternoclavicular joints are points of predilection, although any joint may be affected. The Wassermann test is frequently negative in the serum, but often positive in the fluid aspirated from the joints. The treatment should be started with iodin and mercury.

Serodiagnosis of Tuberculosis.—Szirmai and Venetianer used Wassermann's tuberculin antigen in children. They agree with him that the negative reaction does not exclude tuberculosis. They disagree with him on the value of positive reactions.

Pylorospasm in Case of Cerebellar Tumor.—Porges observed pylorospasm in a woman with a cerebellar cancer metastasis. Necropsy revealed pressure changes in the dorsal nucleus of the vagus, but no changes in the stomach.

"Sex Phenomena and Otosclerosis."—Frey claims priority in having pointed out in 1911 the relation of otosclerosis to endocrine disturbances.

Zeitschrift für Kinderheilkunde, Berlin

39: 1-186 (Jan. 19) 1925

*Whey as Factor in Infants' Diarrhea. H. Finkelstein.—p. 1.
*Idem. Fat Acids in Stools on Varying Whey Feedings. T. L. Birnberg and H. Pelka.—p. 20.
*Idem. Action of Whey on Colon Bacillus. H. Davidsohn.—p. 23.
Sedimentation Test in Scarlet Fever. L. Büchler.—p. 29.
Hereditary Elephantiasis. E. Lyon.—p. 36.
Nitrogen and Organic Acids in Infants' Urine. J. Brock.—p. 44.
Roentgen-Ray Findings in Tuberculosis in Relation to Amount of Exposure. H. Langer.—p. 60.
Winckel's Disease. Two Cases. Conneth.—p. 74.
*Addition of Protein to Breast Milk. H. Langer and S. Schmal.—p. 80.
Insulin in Diabetes in Children. R. Priesel and R. Wagner.—p. 89.
Idiosyncrasy to Cow's Milk in Infant. Brügger.—p. 114.
Subphrenic Abscess in Infant. Sperling.—p. 122.
*Spasmophilia and Electric Hyperexcitability. O. Ulmer.—p. 132.
The Lymphatic Ring in the Throat. R. Blos.—p. 147.
Relations Between Vitamins and Hormones. K. Scheer.—p. 166.
Tuberculin Tests in Erythema Nodosum. H. Koch.—p. 174.
Severe Melena and Dermatosis in Infant; Recovery. Urbanitzky.—p. 179.
Immunity After Abortive Whooping Cough. Von Starck.—p. 182.
Resistance of Infant with Whooping Cough to Tuberculous Infection from Mother. Von Starck.—p. 183.
"Biology of Skin in the New-Born." W. Lasch.—p. 185.

Whey in Infant Feeding.—The three articles on this subject confirm that even albumin-free whey from cow's milk, in the presence of casein and sugar, tends to promote acute diarrheic disturbances in infants. It also favors the proliferation of the colon bacillus. The experimental research reported sustains clinical observation.

Additions to Breast Milk.—Langer and Schmal relate that infants under 5 months, not thriving on breast feeding, began to increase in weight when they were given minute amounts (0.2 gm.) of albumin mixed with the pumped milk. The effect seems to be due to the requirement of albumin by certain infants. The benefit was manifest even when the total of calories was reduced.

Spasmophilia and Electric Hyperexcitability.—Ulmer is inclined to reject a connection between spasmophilia and the electric responses. He thinks the latter depend more on the water content of the tissues than on the spasmophilia, and should not be regarded as a gage of the latter. The behavior of the heart and the nutritional disturbances are the criteria for spasmophilia, not the electric excitability.

Zeitschrift für Urologie, Leipzig

19: 1-80 (Jan.) 1925

Progress in Diagnosis in Urology. A. Lewin.—p. 1.
Present Status of Treatment of Gonorrhea. E. Zieler.—p. 4.
Results of Treatment in Urinary Infections. P. Morawitz.—p. 19.
Surgical Treatment of Suppurative Processes in Kidney Region. F. König.—p. 28.
Present Status of Prostatic Obstruction. L. Kielleuthner.—p. 34.
Surgery of Malformations in Urogenital Apparatus. K. Scheele.—p. 45.
*Heart Disturbances in Chronic Kidney Disease. H. v. Hoesslin.—p. 52.
The Diet Question in Kidney Disease. H. Strauss.—p. 61.
*Reflex Anuria. E. Seifert.—p. 67.
The Capillaries of the Skin in Nephritis. W. Parrisius.—p. 71.

Treatment of Heart Disturbances in Chronic Kidney Disease.—In the differential diagnosis between heart disease and kidney disease with heart insufficiency, high tension of the pulse and, frequently, retinal changes indicate the kidney disease as primary. In order to estimate better the condition of the heart, von Hoesslin advises suspension of digitalis if it has been given before the patient applied for treatment. After a few days the digitalis treatment can be resumed. In the meantime, with a very weak heart, caffein may be given; the fluid intake limited to a minimum, and the patient cupped. With no essential difference between cupping in chronic glomerular nephritis with edema and in contracted kidney due to atheromatosis, without edema but with high pressure, the result in the latter is greater, often striking. In giving digitalis, the constrictor action of digitalis in certain individuals must be borne in mind. In patients with dropsy, diuretics should be used, alone or with heart stimulants. The purins promote directly the excretory function of the kidneys and are also believed to decrease the colloid pressure of the plasma, and thus facilitate elimination of water and salts.

Unfortunately, their use in nephritic edema is experimental, though in stasis edema they rarely fail. While the dropsy may be regarded as a self-protection of the organism, taking up the active poisonous substances and so removing them from the circulation, yet it should be the aim gradually to overcome the edema. Treatment has to be strictly and continuously individualized.

Reflex Anuria.—Seifert reports a case of traumatic anuria —"peripheral anuria"—in a healthy young man. Contusion of the spleen and left kidney caused immediate cessation of function in both kidneys. Necropsy revealed previously sound kidneys. He discusses two other cases of reflex anuria. The cause here was a calculus in one kidney. One patient was an unusually obese man; the other patient was in profound coma. Both recovered after nephrostomy on the apparently sound kidney, and spontaneous expulsion of the calculus in the other kidney. This indirect procedure in treatment of reflex anuria from a calculus overcomes the suppression in the reflexly affected kidney, and, after this, in the primarily affected kidney.

Zentralblatt für Chirurgie, Leipzig

52: 337-400 (Feb. 14) 1925

Gerpel's Cuff Method of "Surgical Treatment of Peptic Ulcer." A. Schubert.—p. 339.
Diffuse Fibromatosis of Gallbladder. B. Walthard.—p. 341.
Rupture of Sigmoid Flexure from Muscular Effort. H. Schmorell.—p. 349.
Pad to Use After Amputation of Breast. E. Glass.—p. 351.
Dyes as Antiseptics in Surgery. W. Türkelkmid.—p. 352.

Zentralblatt für Gynäkologie, Leipzig

49: 337-400 (Feb. 14) 1925

Excessive Rotation of Head During Delivery. R. Demme.—p. 338.
Occipital Presentation with Transverse Delivery of Head. F. Heinlein.—p. 347.
Technic for Direct Blood Transfusion. A. Beck.—p. 348.
*Sedimentation Test in Gynecology. H. O. Neumann.—p. 354.
"Economy in Respect to Catgut." S. Hasselrot.—p. 363.
Pathogenesis of Leukorrhea. H. Rösch.—p. 365.
Ventrifixation for Prolapse After Hysterectomy. Hellendall.—p. 375.
Psychology of Pregnancy. H. Heberer.—p. 377.
*Passive Immunization Against Pregnancy. W. J. Chudarkowski.—p. 383.

Diagnostic Value of Sedimentation Speed of Erythrocytes in Gynecology.—From his investigations Neumann concludes that in gynecologic cases which offer difficulties in determining whether or not an inflammation is present, the result of the sedimentation speed test will not definitely decide the question.

Experimental Passive Immunization Against Pregnancy.—Chudarkowski employed different modes of immunization (intravenous injections, subcutaneous and intra-abdominal transplants, etc.) to find whether from grafts of fetal parts and sex organs of gravid animals a specific serum against pregnancy might be obtained. The antiserum was injected intravenously in female rabbits for two or three days. Early intravenous injection of the serum interrupted the pregnancy in the gravid animals, and none of the others became gravid. There were no other symptoms of disturbance. The effect seemed to be specific and transient, probably due, he says, to the specific lytic action of the injected antipregnancy serum.

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Cause of Anomalies of Refraction. O. Leser.—p. 201. Cont'd.
*Ultimate Outcome of Otogenous Brain Abscesses. F. Ninger.—p. 207.
*Corneal Ring in Pseudosclerosis. A. Gala.—p. 211.
*Roentgen Control of d'Espine's Sign. F. Skalnik.—p. 213.
The Inhabad Pulmotor. L. Jicinsky.—p. 217.
Physicians' Duties in Venereal Diseases. O. Horák.—p. 219.
Present Status of Abortion. O. Saitz.—p. 221.

Ultimate Outcome of Otogenous Brain Abscesses.—Ninger publishes the histories of several patients with otogenous cerebral abscesses and meningitis. They recovered, although some of them were left with defects (unilateral atrophy of the optic nerve, mental changes, etc.).

Corneal Ring in Pseudosclerosis.—Gala diagnosed a beginning case of pseudosclerosis from the presence of the Kaiser-Fleischer corneal rings. They are symmetrical, greenish brown, situated at the periphery, and ½ mm. wide. The pigment is in fine granules, and seems to be a derivative of hemoglobin. The symptom was never found in multiple sclerosis. His patient had also hemeralopia, which is one of the less common symptoms in pseudosclerosis.

Roentgen Control of d'Espine's Sign.—Skalnik controlled d'Espine's sign by a roentgen examination in fifty-three patients. He prefers the latter method.

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9: 1-227, 1924. English-German Edition

Pierocercoides Helminthiasis. K. Tashiro.—p. 1.
Transverse Lines in Roentgenograms of Bones. T. Asada.—p. 43.
The Teeth in Osteogenesis Imperfecta. S. Naito.—p. 97.
*Fulminating Dysentery in Children. T. Tanaka.—p. 139.
Poisoning from Human Milk. T. Tanaka.—p. 173.
*The Conducting System in the Heart. S. Nomura.—p. 195.

Brain Symptoms in Fulminating Dysentery in Children.—Tanaka compiled statistics on 400 cases of dysentery and ekiri in children (1916-1920). Complication with encephalitis occurred more often than in other infectious diseases, with the highest mortality in the encephalitis cases. Eight cases are described. The brain symptoms were the general brain symptoms of encephalitis, together with symptoms of localized pressure on the brain. In 75.5 per cent. of the cases the complications set in within three days; 63.3 per cent. of the children died within three days. The incidence of the encephalitis seemed independent of the season. The complication followed most frequently with type IV bacillus. Coffee-ground vomit is an important symptom.

Function of the Conducting System in the Heart.—Nomura's histologic studies in the dog and the rabbit on the pseudotendon fibers found in the ventricle indicate that this abnormal tendon fiber belongs to the true impulse conducting system. It contracts during the propagation of the impulse, and can also contract automatically.

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*Epidemic Myelo-Encephalitis with Exanthem. E. Gundersen.—p. 105.
Radium Dosage and the Vaginal Dose. T. Brandt.—p. 116.
Dilator Muscle of Pupil and Ciliary Muscle. O. Berner.—p. 123.
Chronic Amebic Dysentery. M. von Krogh.—p. 128.
*Detachment of Retina in Eclampsia. G. Schaanning.—p. 136.
"Etiology of Articular and Muscular Rheumatism." A. Tanberg.—p. 139.
*Etiology of Endemic Cretinism and Goiter. B. Ebbell.—p. 145.
Recent Research on Gastric and Duodenal Ulcers. O. Bang.—p. 156.

Epidemic Myelo-Encephalitis with General Zoster Exanthem.—Gundersen's case was in a man, aged 55, with lumbar herpes zoster and a simultaneous general varicella-like eruption, with symptoms of epidemic encephalitis from the beginning. He regards the eruptions in epidemic myeloencephalitis as a secondary neurogenous symptom of a posterior poliomyelitis. He points to the similarity between such cases and those of chickenpox with simultaneous cerebral and motor symptoms, illustrating this by the report of a chickenpox case with these symptoms. Eight other related cases (three with eruption) from the same locality and time are also reviewed, and the one case in Swedish literature.

Pregnancy Papilloretinitis with Bilateral Detachment of Retina.—Schaanning reviews a case in a secundipara, aged 25, with threatened eclampsia in the twenty-eighth week of pregnancy. Vaginal cesarean section was made twenty-four hours after the patient noticed impairment of vision, with rapid recovery. Twelve days later one eye was normal and the second greatly improved. On the twenty-fourth day vision was normal.

Etiology of Endemic Cretinism.—Practically the same article was reviewed on page 714, when published elsewhere.

Svenska Läkaresällskapets Handlingar, Stockholm

50: 301-344 (Dec. 31) 1924

Astigmatism and Other Forms of Indistinct Vision, from Standpoint of Optics. H. Gertz.—p. 301.
Supplement to "Mechanical Equivalents for Crystalline Lens." H. Gertz.—p. 310.
"Air Embolism After Antrum Puncture." R. Gording.—p. 311.
Reply. H. Bergstrand.—p. 313.
Type of Bacillus in Primary Intestinal Tuberculosis. A. Pettersson.—p. 315.